KAPA®

Processing instructions

DESIGN, CREATE AND DISPLAY WITH KAPA®...

... THE POWER BEHIND YOUR CREATIVITY!

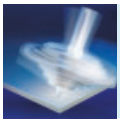
3A COMPOSITES

Make it big!

KAPA® gives you the power to realise your ideas in new dimensions. Our lightweight boards mean you no longer need to work on compromises, you are finally free to focus on solutions. No matter what the job: an indoor application, direct printing or mounting, 3-D forming, model making or even large format designs – KAPA® boards open up new dimensions.

We have prepared this brochure to give you a solid working knowledge to use our boards; know-how put together based on the day-to-day experience of professionals using KAPA® products so that you can make the most of KAPA® lightweight boards. For some, the contents of this brochure will be an easy entry into the entire subject, for others it provides a springboard for further developing own processes and techniques. We would be very interested to learn more about how you use the materials we make. Because a previously unknown application may contain the kernel of an innovative idea. We hope our materials inspire your imagination to create impressive results.

Your KAPA® technical applications team.



This icon indicates practical tips to help you put your ideas into practice with KAPA®.

Persuasive profiles

KAPA® lightweight boards are persuasive for many reasons, not only thanks to their excellent product properties but also because they are all constituent parts of a perfectly tailored range. It is our aspiration to give designers in all disciplines the right and adequate board materials.
The actual technical realisation and production benefits gained by using the undisputed high processing characteristics offered by KAPA® help generate enhanced quality and efficiency.

Almost everything is possible with KAPA®. No matter which creative processing techniques you already, or intend to, apply, you can profit from our exceptional performance profile:

- **Usable on both sides**
- **Brilliant surface finish**
- **High level of stiffness**
- **Good dimensional stability**
- **Excellent flatness**
- **Compatible with solvent-based adhesives and inks**

Processing options, at a glance	KAPA® line	KAPA® plast	KAPA® color	KAPA® mount	KAPA® fix
Digital print / silk-screen	■	■	■	■	
Mounting				■	■
Painting/spraying	■	■	■	■	
Covering with textiles	■			■	■
Foil application	■	■		■	■
Punching	■	■	■		
Fretting with jigsaws	■	■	■	■	■
Oscillating cutters/jet spray cutting	■	■	■	■	■
Format/edge cutting with cutters	■	■	■	■	■
Butt-joint adhesion	■	■	■	■	■
3-D forming	■	■	■	■	■
Fire protection classes DIN 4102 B2 / EN 13501-1: E				■	■ *

*fix-1

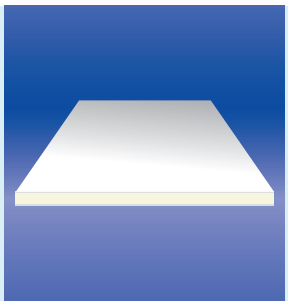
Board type /application area

Formats Thicknesses

KAPA® line

Lightweight board with pigmented chromo-substitute carton-sheet covering layers

- Classic decor, screen print and punch plate
- Direct print plate for digital inkjet printing
- Ideal base for all creative artwork
- Modelling and presentation base plate

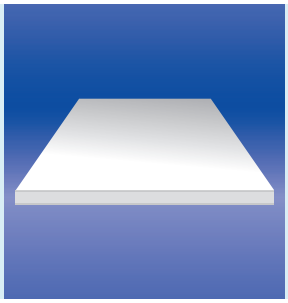


mm	3	5	10	15	20
500 x 700	40	24	12		
1.000 x 700	40	24	12	8	
1.000 x 1.400	40	24	12	8	
3.000 x 1.400		18	12	8	6
3.050 x 1.530		16	8		

KAPA® plast

Lightweight board with plastic-coated cellucarton covering layers (primer-finished)

- Premium direct print plate for digital inkjet and screen print
- Ideal base plate for all artwork
- Fretting board for 3D logos and lettering
- Modelling and presentation plate

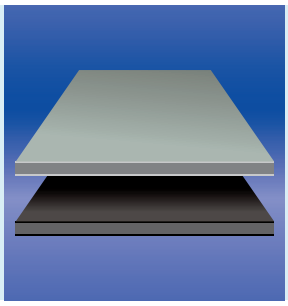


mm	3	5	10	15	20
1.000 x 700	40	24	12		
1.000 x 1.400	40	24	12		
3.000 x 1.400		18	12	8	
3.050 x 1.530		16	8		

KAPA® color

Lightweight board with coloured plastic-coated cellucarton covering layers
(bi-colour versions)

- Ideal base plate for all creative work
- Modelling and presentation plate

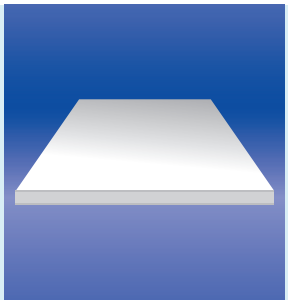


mm	3	5	10	15
500 x 700	40	24 24		
1.000 x 700		24 24 24		
1.000 x 1.400		24 24 24		

KAPA® mount

Lightweight mounting board with chromo-substitute carton-sheet covering layers, aluminium-reinforced
(Flame-protection class E as per DIN 4102 B2/EN 13501-1: E)

- High quality mounting plate for digital print and large format photographs
- Fill-in panel plate for exhibition and display systems (offering extra aluminium stabilization for large-format objects)

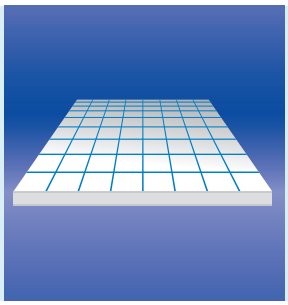


mm	3	5	10	15	20
1.000 x 700	40	24	12		
1.000 x 1.400	40	24	12		
3.000 x 1.400		18	12		
3.050 x 1.530		16	8		

KAPA® fix

Self-adhesive rapid action mounting board
fix-1: one side self-adhesive with chromo-substitute carton-sheet covering layers, aluminium-reinforced
(Flame-protection class E as per DIN 4102 B2/EN 13501-1: E)
fix-2: both sides self-adhesive with chromo-substitute carton-sheet covering layers

- Ready-to-mount support base for digital prints and large format photos
- Base plate for applications (textiles/foils etc.)
- Fill-in panel plate for exhibition and display systems



mm	3	5	10	5	10
1.000 x 700	40	24	12	24	12
1.000 x 1.400	40	24	12	24	12
3.000 x 1.400		18	12	18	12
3.050 x 1.530		16	8		
		fix-1		fix-2	

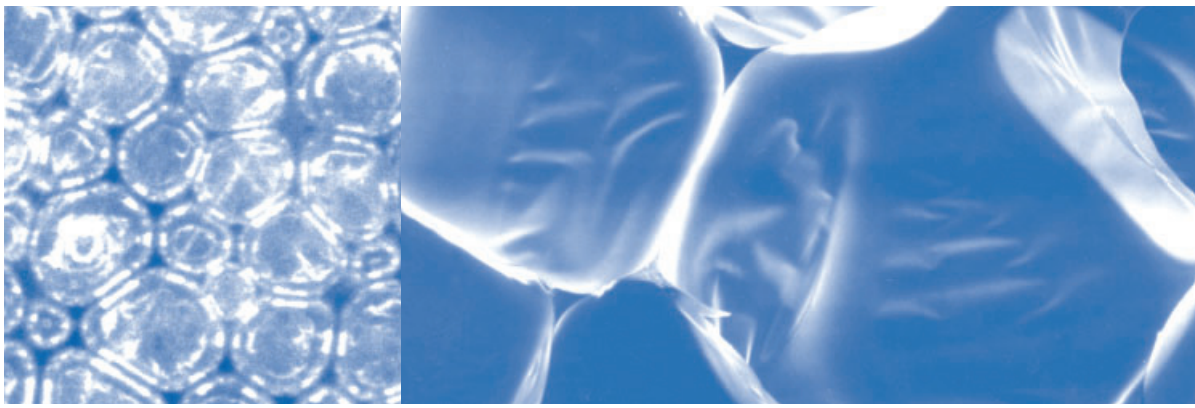
white | grey | black | grey/black | 24 number of boards per box

Let's get serious

KAPA® products boast properties which often impress even old hands with many years of experience: they are amazed that a 5 mm board of the classic KAPA®line can be 3.050 mm x 1.530 mm (or 4,7 sqm) in size and still only weigh 2.500 gramms; a persuasive expression of the innovative technology incorporated in the centerpiece of KAPA® sandwich construction boards: the **polyurethane foam** core in the middle of all KAPA® lightweight boards comprising millions of tiny air-filled bubbles networked together in a honeycomb structure. The foam core and the two cover sheets are sandwiched together in a continuous inline process to produce a lightweight composite sandwich board of precisely defined thickness.

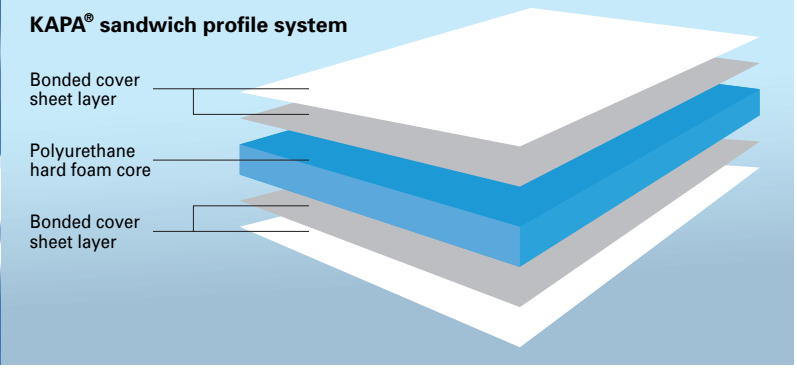
The fact that our boards can demonstrate strength across the complete area, is ultimately thanks to the properties of the polyurethane foam core. Low weight and high levels of stiffness combine with stable cover sheets to produce the unique form and pressure stability which makes these boards excel.

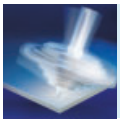
Standardised production know-how complemented by ongoing quality control ensures consistently high product quality standards – standards upon which designers and users can depend.



A stability principle derived from nature:
the networked honeycomb structure of the KAPA®
polyurethane hard foam core seen under a microscope.

KAPA® sandwich profile system



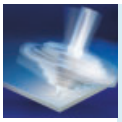


■ Detailed technical datasheets for all KAPA® board types are available directly from us and as downloads from **www.kapa.eu**.

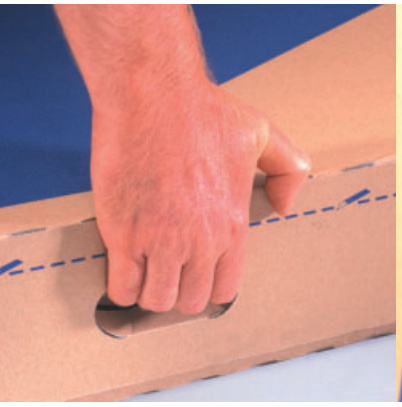
Easy to handle!

Packaging
After being cut to size, all KAPA® boards are carefully packed in special corrugated cardboard boxes. The boxes are marked with detailed instructions on proper handling of the materials – in particular with regard to the edges, which can be sensitive to impacts and bumps.

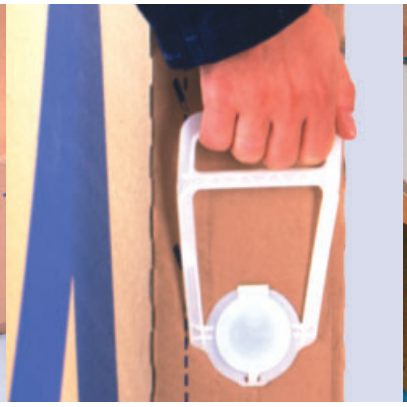
Storage
KAPA® boards should always be stored dry, protected from the cold and preferably flat on a sufficiently dimensioned support. Prior to use, it is recommended that the boards are acclimatised to workroom conditions. This is especially true for sensitive direct print and mounting jobs.



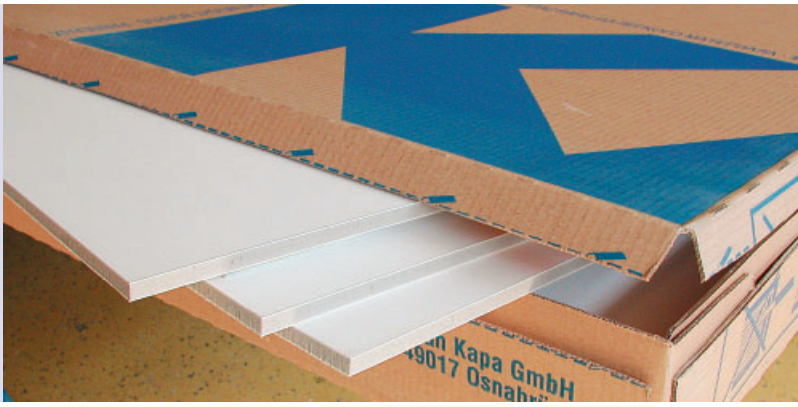
- Store KAPA® board as flat as possible, on sufficiently dimensioned support areas.
- Never place or stack other objects on stored KAPA® boards.
- Whenever handling KAPA® boards, e.g. when removing from the box or in production, always wear simple white cotton gloves to prevent contamination of the surface with finger prints and dirt particles.



- The ends of the transport boxes have punched-out handles, stabilised with inserts, to allow for straight-forward horizontal handling.



- A special carrier handle is also available for vertical carrying: the handles are simply fitted and locked into special punch holes. (For more details, please contact us directly or your dealer).



- When opening the boxes, cut along the marked lines, paying special attention to the specified cutting depth. Following these rules will prevent the boards being damaged.
- It is recommended that the boards are removed singularly, with the packaging either vertical or horizontal, as this generally results in less pressure being applied to board surfaces and edges.

Transportation

Carrying small format KAPA® boxes is straightforward. For the sake of safety, we recommend that large format boxes are always moved by two persons and that use is made of the specially designed transport aids, either integrated in the boxes or available as accessories. When using forklift trucks, always set the forks wide apart and apply extra diligence when passing through gates and doorways.

Unpacking boards

Extreme care should always be exercised when opening boxes. Always ensure hands are clean, during unpacking as well as during processing work. An excellent choice is to wear simple white cotton gloves. This helps to avoid any grip marks and prevents the board surfaces being contaminated by grease and dirt particles.

Disposing of off-cuts

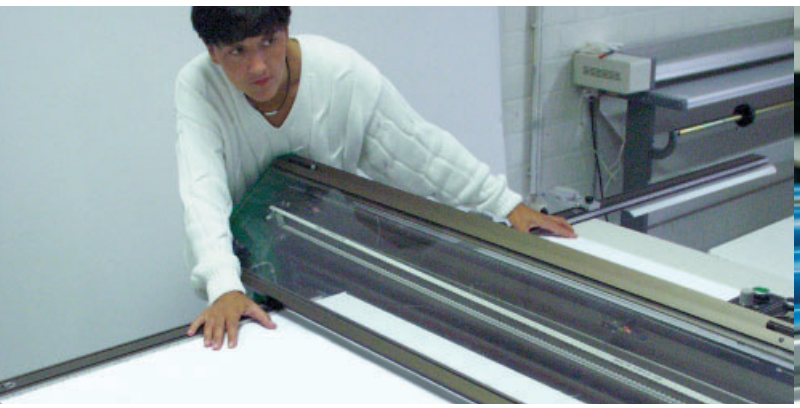
We dispose of our in-house polyurethane hard foam off-cuts in a thermal recycling plant. You may also dispose of your KAPA® board off-cuts as normal household waste.

Digital inkjet-direct printing

The demands of large format printing (LFP), the steady increase in the number of flat bed printers and the short lifetimes of the images typical for this sector have generated a growth in demand for lightweight boards. **KAPA®plast** is available in the large format of 3,050 x 1,530 mm and is therefore ideally suited to the high quality demands typical for modern direct inkjet printing techniques. The board's dimensional stability, flatness and the printing benefits offered by the optimised ink retention of the primer finish all help guarantee finely graded print images, also when using UV hardening or solvent-based inks.

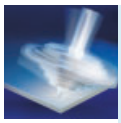
Nowadays, the decision to use a lightweight board as the print carrier frequently goes hand in hand with the need for a robust figurative realisation of ideas, ideally implemented using a print and cut installation. This is a market segment in which only few materials can render this particular combination of product properties: robustness and flatness married with lightness – Kapa lightweights can!

Processing instructions for KAPA® lightweight boards

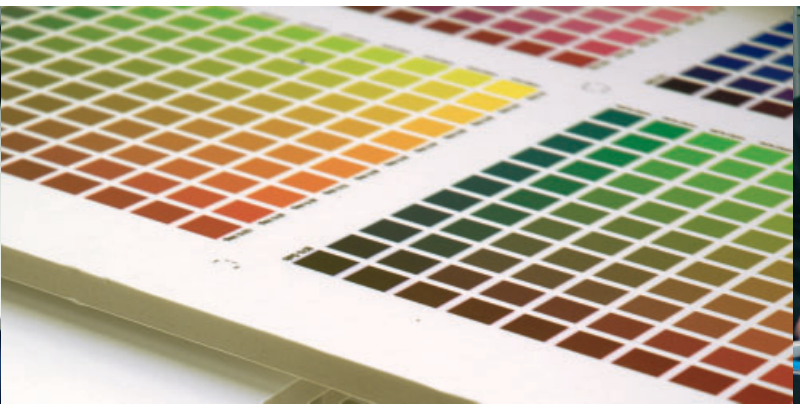


Board handling ready for printing

- Cut the board to the required size.
- Allow board to acclimatise to room temperature (approx. +15 to +25 °C) before cutting. Also ensure the board is free of dust and dirt particles using a duster, an antistatic cloth or a special device (e.g. PCR rollers), then place carefully on the printer feed.



- KAPA® off-cuts are useful for testing printer settings and test prints.
- Use KAPA® off-cuts to help avoid direct edge contact between the board and the floor.



Inks

- KAPA® boards can be printed in using standard industry inkjet, UV and even solvent-based inks. For more information about material and ink profiling, please consult the manufacturer/ supplier of your printing equipment.

Board handling after printing

- Boards should be left air lying flat. Direct contact of edges with the floor should be avoided.

Mechanical mounting

The rapid rate of developments in large format picture technology has been matched by a similar rate of growth in the range of lightweight boards suitable for mounting applications. The key quality criteria dictating carrier material choice – in particular in the case of large formats – are e.g. excellent flatness and dimensional stability. KAPA® polyurethane lightweight boards are also outstanding in other areas, such as reinforcement for conventional large format photos, digital prints, posters, plans, cards and prints.

KAPA®fix with its self-adhesive cover layer, is ideal for quick and easy cold mounting either by hand or with a machine. **KAPA®mount** has an aluminium-strengthened cover layer to offer professional quality results in the area of mechanical cold laminating, and the less frequently used wet laminating (also with solvent-based adhesives).

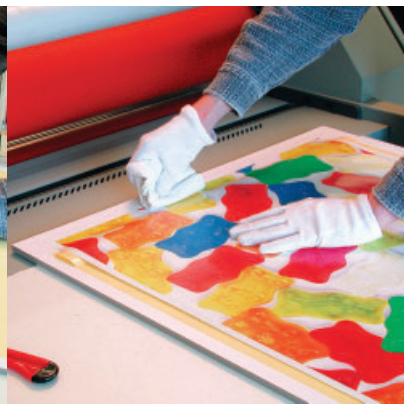
All KAPA® mounting boards feature persuasive properties for finishing, thanks to their impressive easy cutting and fretting characteristics (see also pages 18 – 21).

Processing instructions for KAPA® lightweight boards

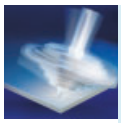
- The cut-to-size KAPA® board and the image to be mounted must first be acclimatised to room temperature (+ 15 to + 25 °C) and freed of dust and dirt particles either with a duster, antistatic cloth or special cleaning tool, e.g. PCR roller. (A surface protection or picture enhancement film should be laminated over the image before mounting).

- With the exception of KAPA®fix all board types must be laminated with a double-sided adhesive film (apply the film slightly wider than the board).

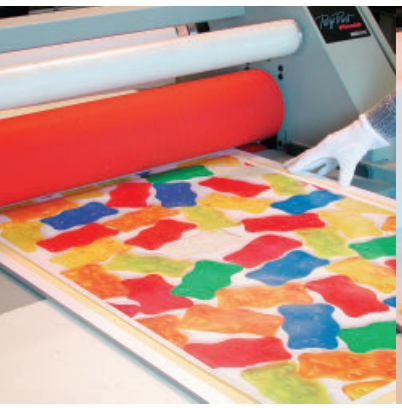
- Pull approx. 3 cm of the backing from the adhesive film and fold back with a sharp crease: avoid contact with the exposed adhesive.



- Lay the image to be mounted on the board and align (the picture does not come into contact with the adhesive area because it is held up by the folded piece of backing paper). Now smooth the leading edge onto the exposed adhesive with a soft cloth or hand roller.

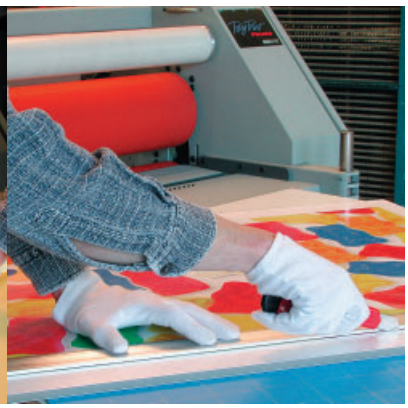


- Use the grid pattern on the KAPA®fix backing paper to ensure perfect 90° cuts.
- Use a piece of KAPA® board off-cut to set the machine gap and pressure before starting.



- Push the board with the pre-fixed motif against the roller gap on the laminating machine, keeping it straight (the gap and the roller pressure should be set previously, approx. 0.5 to 1 mm less than KAPA® board thickness).

- In the case of large format jobs, the image to be mounted should be draped over the top laminating roller (this allows for crease-free lamination over the entire image width). The image should be held tight against the laminating roller with one hand, while peeling off the backing evenly with the other hand (the mounting process should be completed in one smooth, continuous pass to prevent pressure stripes).



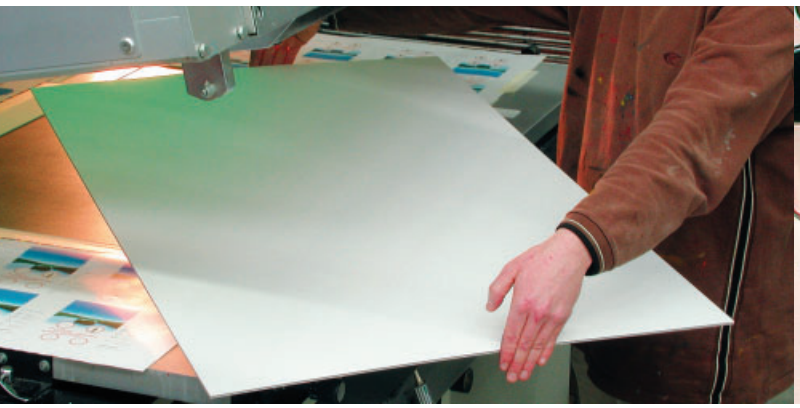
- The board can now be trimmed to the required final size with a utility knife.

Screen printing / Punching

KAPA®line and **KAPA®plast** are eminently suited to the extreme demands of graphic silk-screen printing because of their flatness and surface quality. The sophisticated demands of large format processing, higher print speeds and shorter drying times are also easily satisfied by products from the KAPA® range thanks to the proven qualities of the solvent-resistant polyurethane foam core and smooth primered/closed pore surface finishes.

Whatever the image – fine lines or intricate dots – KAPA® offers brilliant print results. Even in applications employing hot air drying after the printing process, the blocking experienced with other materials is notably absent.
The increasing popularity of silk-screen and digital printing combinations, often matched with punching and fretting techniques, offers exciting new fields to expand and exploit KAPA®'s market potential.

Processing instructions for KAPA® lightweight boards

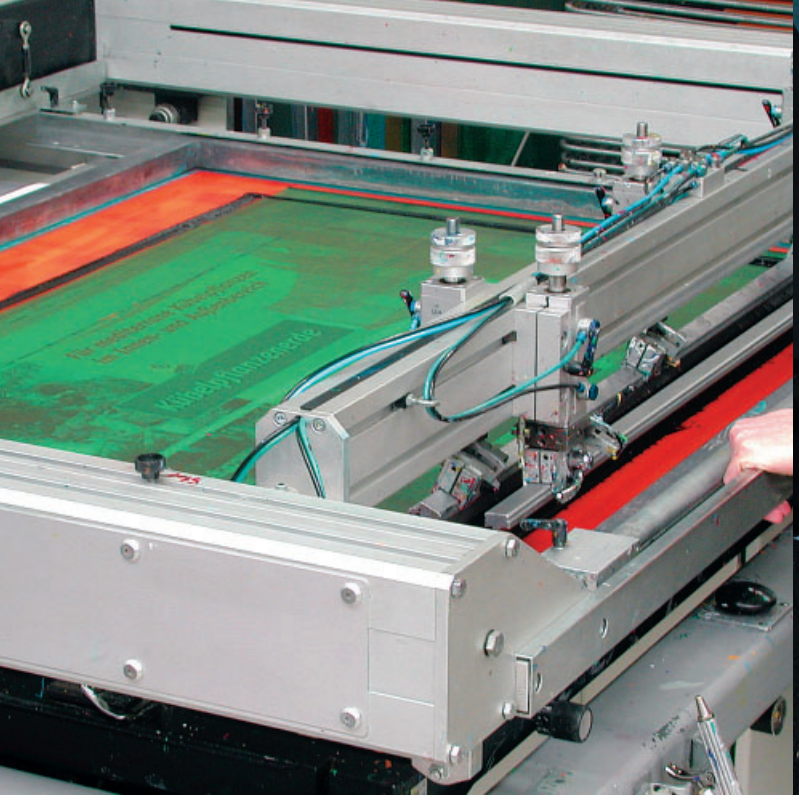


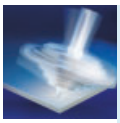
Board handling

- Boards can be handled either manually or using equipment. Hands should always be clean; boards should always be handled carefully, for example using only fingertips on board edges.
- Boards should always be absolutely dust-free: dust can either be blown off or removed using a duster.

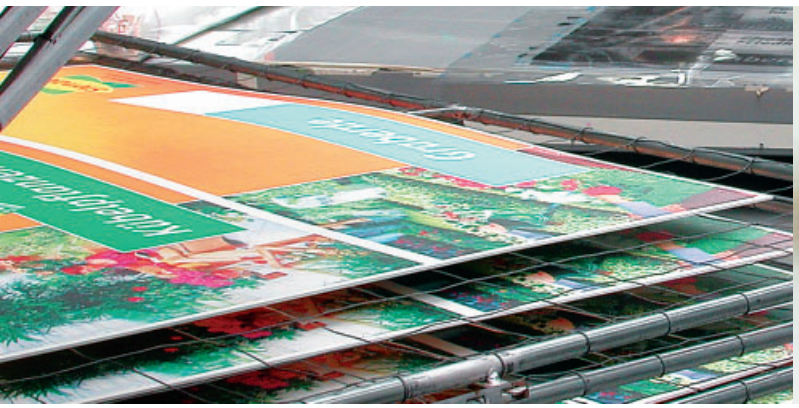
Inks

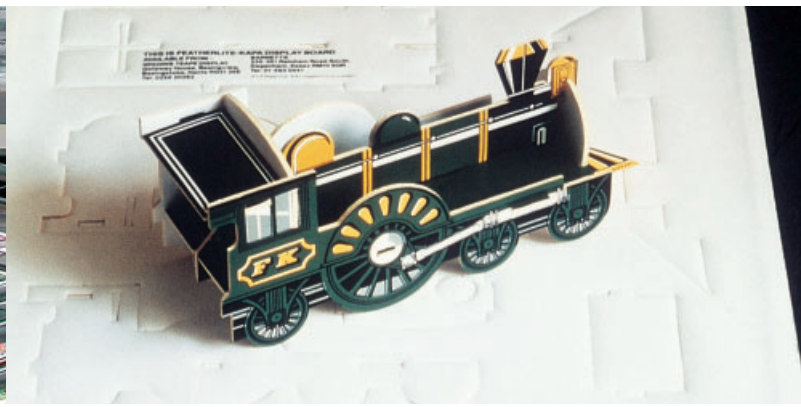
- KAPA® boards can be printed on with all commercially available acrylic inks (dispersion paints should not be used on KAPA®plast and KAPA®color boards because of the plastic-coating).
  For more information, please consult the manufacturer: see appendix for addresses.





- In the case of partial-area printing, the squeegee should still cover the entire board width in order to prevent pressure marks and streaks.
- The ends of the squeegee should be rounded in order to prevent pressure on the edges of the board.





Raster silk-screen

- For point perfect print results on all KAPA® board surfaces, always observe the following technical guidelines:
  - 24 raster width (recommendation)
  - squeegee hardness 60 – 65 shore A (recommended)
  - assuming the material is correctly stretched, the snap-off distance should be kept as small as possible.

Punching

- KAPA® boards of up to 10 mm thickness can be processed on all standard punching presses.
- It is recommended to use punching dies with fine teeth, small punching dies can be used up to 5 mm board thickness, although in this case the material compression at the cutting edge means a slight deformation is unavoidable.
- Punching dies should always be completely dressed with a compressible elastic material; this material acts as an ejector and should be adjusted to match board thickness and die height.

Deco techniques

At the beginning there is always an idea. An idea quickly evolves into a sophisticated solution which can be brought into the required form with the right selection of materials from the KAPA® lightweight programme using one or many techniques. The multitude of design possibilities means we will only attempt to describe some of the more standard techniques as they are used in decoration and model building practice. The superior processing advantages offered by the polyurethane foam core are definitely a big plus when it comes to saving time and money, for example thanks to the straightforward use of solvent-based inks and adhesives.

There are basically no limits to board and design applications, although it is also true that some boards are better suited to some specific purposes than others. Here are a few examples:

KAPA®line: with pigmented cover layer is ideal as a base plate for all directly applied paint techniques.
KAPA®plast has a long track record in producing superior results in graphic silk-screen print and film/ foil applications.
KAPA®fix is our self-adhesive board, making it suitable for all fast mounting tasks in the graphic-decorative field.
KAPA®color has practical bi-colour coating layers (grey-black base option), making it the board often chosen by creative designers and architects for presentations.

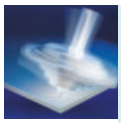
Processing instructions for KAPA® lightweight boards

Marking / painting / spraying

- KAPA®line is the ideal base for all paint application techniques, suitable for all standard acrylic and solvent-based markers, paints, varnishes and sprays (in the case of full cover applications of paint, also solvent-based paints, always apply on both sides of the board to prevent warping).
- When using KAPA®plast or KAPA®color as a painting substrate, the plastic coated cover layer means solvent-based paints are recommended.

Covering

- All KAPA® board types are suitable for covering. The material can be affixed to the reverse of the board using deco pins, Velcro, foam tape or staples, depending upon material characteristics.
- Staple guns or battery powered guns are suitable on boards of thickness 10 mm and more, although the extremely high impact forces of these tools requires experience and a delicate touch.



- Polyurethane foam edges can also be painted with solvent-based paints, using brush or roller, to achieve better integration in the overall design concept.
- Use the grid pattern on the KAPA®fix backing paper to ensure perfect 90° cuts.

Vinyl film lettering application

- KAPA®plast and KAPA®color surfaces allow short-term repositioning of applied films without damaging the surface layer; adhesive residue can be removed with methylated spirits, fingerprints and dirt with a damp cloth.
- Application-tapes should be slowly removed at a flat angle, a quick, ripping movement may result in partial separation of the cover layer from the foam core.

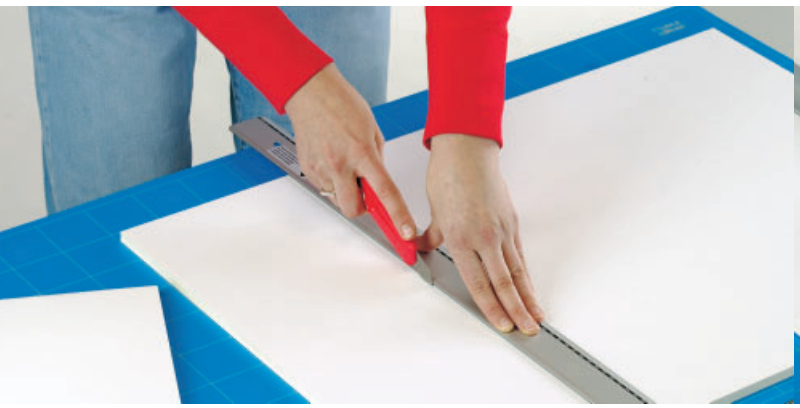
Small format photos and prints mounted by hand on KAPA®fix

- Peel approx. 3 cm of the backing paper from the board and fold back (with a sharp crease). Avoid contact with the exposed adhesive surface.
- Align the image to be mounted and fix in place on the exposed adhesive area by pressing with a cloth or hand roller.
- Now slowly peel off the backing paper by hand while simultaneously smoothing the image into place using broad, smooth movements using a cloth or hand roller.
- Cut the mounted KAPA® board to the required size using a cutter.

Cutting

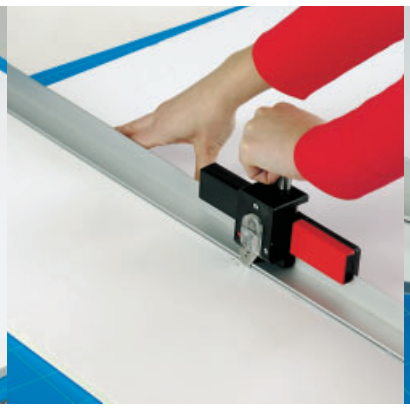
Although KAPA® offers a huge range of standard board sizes, day-to-day jobs still frequently require customer sizing and edge trimming. KAPA® lightweight boards have a non-crumbling polyurethane hard foam core to guarantee smooth, clean cuts when using the proper cutting tool. The use of guillotine type cutters and laser cutters is not recommended because of the risk of material deformation and rough edges. Thermal cutting is not possible.

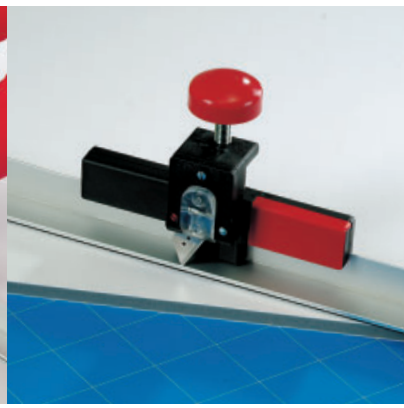
Processing instructions for KAPA® lightweight boards



Manual cutting with a utility knife

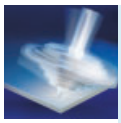
- Use a cutting mat as an underlay.
- Mark out the size to be cut.
- Position a steel or aluminium straight edge, pressing down to prevent slippage.
- Cut in a smooth, continuous motion along the straight edge, (keeping the cutting blade as flat as possible).
- Multiple passes may be necessary, especially on boards of 5 mm thickness and more.



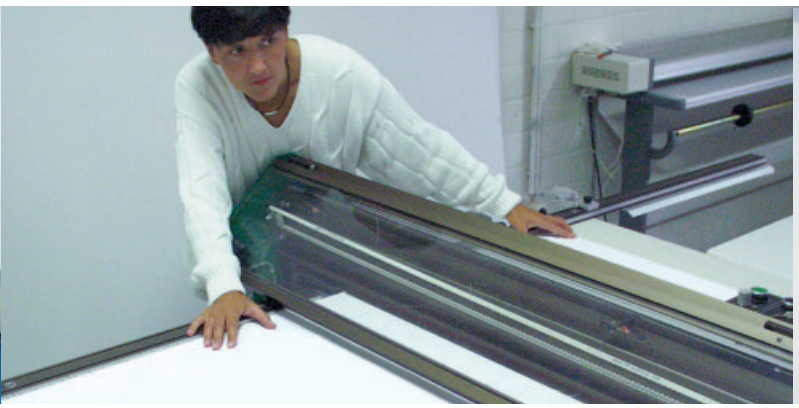


Manual cutting with a guided, mounted blade (MARTOR-Condex)

- Use a cutting mat as an underlay.
- Mark out the size to be cut.
- Position the guide bar, holding it tightly with one hand to prevent slippage.
- Lower the cutting head and guide it across the board in one continuous movement.



- Sharp blades guarantee clean-cut edges.
- Edges can be smoothed with fine sand paper.
- A cutting ruler or straight edge can be prevented from slipping by sticking a soft rubber strip on the reverse side.



Manual or powered cutting with a vertical or table cutting unit

- Set up the cutting guide precisely and at 90°.
- Mark out the size to be cut.
- The material holder and the cutting head are then moved, either manually or electrically.

Mechanical sawing using a board saw

- The "Piano plus" is a high-precision circular saw blade manufactured by the GUHDO company which produces excellent cutting results. The special geometry of the individual teeth, with a 40° angle, minimizes the pressures generated during cutting.
- Remove all dust from sawing prior to further processing using either a blower or a cloth.

For more information, please contact the manufacturer: see appendix for addresses.

Fretting (contour cutting)

Advertising messages can be enhanced using contour-cut lettering, logos and displays. This effect can be achieved today in a highly professional fashion using CAD/CAM controlled print and cut solutions: although there will always be a demand for individual solutions prepared by skilled hands.

One-off jobs with simple contours can be quickly and easily cut from all KAPA® boards using a utility knife. Small production lots with more intricate contours can be quickly made using a jigsaw. Longer production runs of three-dimensional lettering and logos where identical results are paramount, especially with very delicate contours, are best executed using an oscillator or water jet with CAD/CAM supported contour guidance.
The large amount of dust and static charges created mean standard milling techniques cannot be recommended.

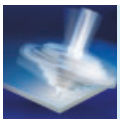
Processing instructions for KAPA® lightweight boards

Manual fretting with a utility knife

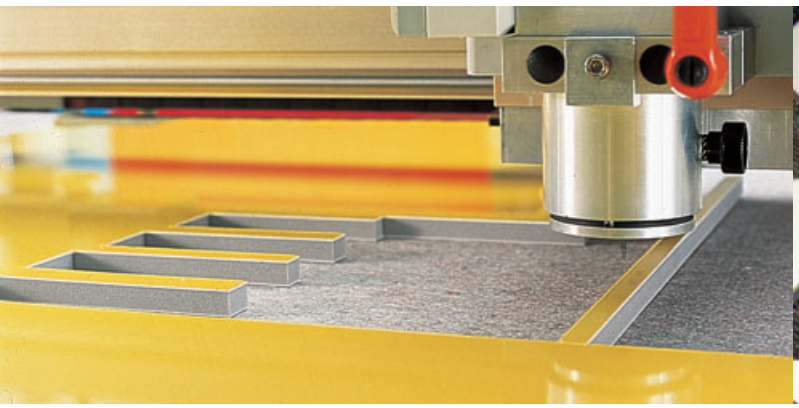
- Draw the contour to be cut on the board.
- Straight sections and wide contours are best cut in one smooth continuous motion, tighter curves should be cut in sections.

Manual fretting using an electric jigsaw

- Draw the contour to be cut on the board.
- Guide the jigsaw along the marked contours using light pressure; tighter contours should be cut in sections (use of a special blade is recommended, for example BOSCH T113A).
- Before further processing always remove all saw dust from the board using a blower or a dusting cloth.

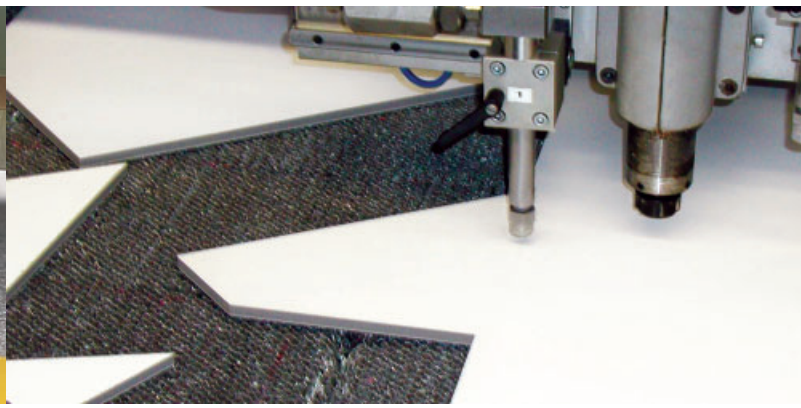


- Sharp cutting blades guarantee clean-cut edges.
- Edges can be smoothed using fine sand paper.



Fretting with an oscillating cutter

- A tangential guided tool with an oscillating blade provides for fast cutting of finely detailed contours; for high precision jobs use a laser matching system (maximum KAPA® board thickness for oscillating cut = 15 mm).



Fretting using jet spray systems

- High compression jet spray cutting differs from laser cutting in that the lack of heat means there is less likelihood of the foam edges deforming: fine contour cuts can be achieved on even the thickest KAPA® board with only slight residual dampness along the cut foam edge. This quickly dries off.

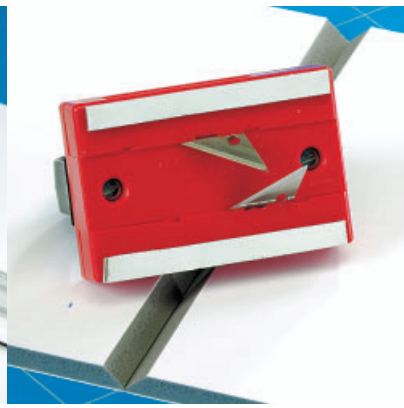
From flat to shape

A flat KAPA® board can be quickly transformed into stable, aesthetically pleasing 3-D shapes in just a few steps. For example a robust stand comprising a simple box shape is quickly made. Classical pillars in a lightweight construction style can be quickly and individually formed, as can decorative cubes, shelves and decorative steps. All such items have the advantage of being light; they can be easily moved to wherever they are needed and can even be hung from the ceiling without problems. All the more surprising then that the excellent load-bearing properties of many shapes built using KAPA® lightweight board often easily steal the limelight from heavier contenders.

Processing instructions for KAPA® lightweight boards

Folding a board (3 – 5 mm on a table edge)

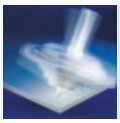
- Mark the fold line on the board.
- Align the marked position on the table edge and carefully bend the board (taking care not to damage the cover layer) until the required shape is achieved.



Making a glued-notch mitre cut (MARTOR-Rillex) for the all-purpose construction of load-bearing forms

- Position an aluminium or steel straight edge as a guide for a 45° V-cut and hold in place with one hand.
- Glue a piece of KAPA® or some other material under the Rillex cutter to prevent cutting through to the bottom cover layer.
- The mitre cut should be made in one long, continuous movement, working from top to bottom; remove the cut strip.

For more information, please contact the manufacturer: see appendix for addresses.



- For a simple load-bearing stand, for example draped with a cloth, simply cut KAPA® board off-cuts to size and fix together using deco-pins.

Make classical pillars with cut segments

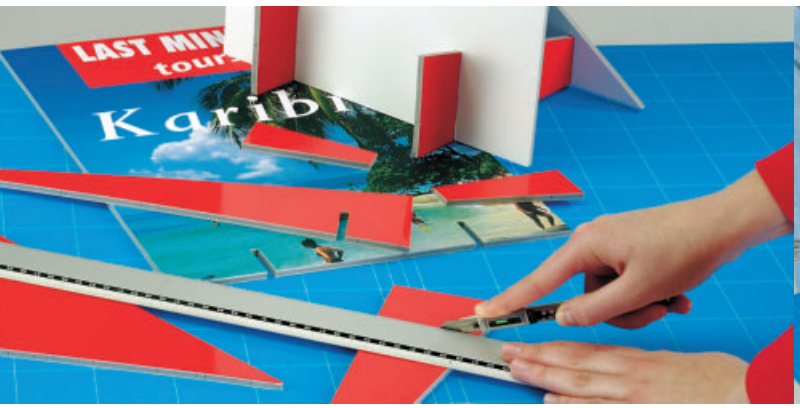
- Decide on pillar diameter and height, and cut KAPA® board accordingly.
- Decide on the division lines, mark and then cut through the cover layer.
- Fold the segments into the desired form and tape the butt-joint on the hidden inner side.
- Cut out the top and bottom cover pieces and glue into position with a contact cement (be sure to allow adequate drying time) or a hot-melt pistol.

Slot connections

The use of simple construction connections can give posters, three-dimensional displays and large figures made of KAPA® lightweight boards excellent stability for free standing and hanging applications. The low weight of the boards means all options are open, allowing rapid repositioning according to need.

Assembly and disassembly without the need for tools means easy-to-realise display solutions are available, offering maximum flexibility and lightweight combined with robustness and stability. Intelligent slot connecting techniques are simple but incredibly effective.

Processing instructions for KAPA® lightweight boards

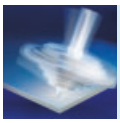


Slotted supports (e.g. for posters)

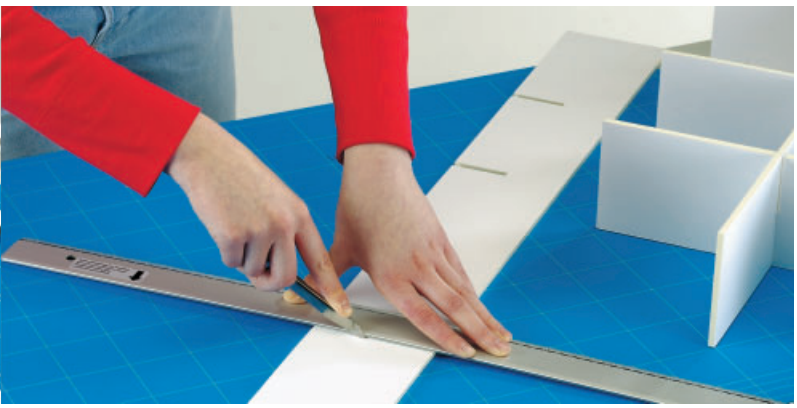
- Cut the supports in the desired form.
- Cut slots in the supports and in the KAPA® board backing the poster, making sure that the cut slots are slightly narrower than the board thickness.
- Align the supports with the slots in the poster backing, and simply slot together.

Slotted cross construction (e.g. for decorative trees)

- Cut out identical tree sections.
- Cut a slot lengthways in each piece; in one piece from top to middle, and in the other from middle to bottom.
- Slot the pieces together.



- Use KAPA® off-cuts to make mountings, supports and reinforcement sections – and for example as a spatula to spread adhesive.



Lattice construction with cross slot technique (e.g. shelving elements)

- All boards should be cut with identical slots, make sure the slots are half the width of the board.
- Press the pieces together to form a lattice, for standing or hanging.

Glued connections

Permanent glued connections are perfect wherever high levels of stability are required, for example in large scale KAPA® applications such as model making. The edges of KAPA® mounted digital print and large format photo segments and KAPA® direct print segments can be quickly and simply joined, and given additional reinforcement by gluing off-cut strips on the reverse side.

Layering is particular useful in many model making and modelling techniques, for example in architecture and design development and also for building 3D layered models. KAPA® boards can be glued using solvent-based contact cements as well as hot-melt pistols or fixed using double-sided soft-foam adhesive tape strips.

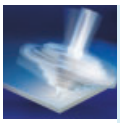
Processing instructions for KAPA® lightweight boards

Glued butt-joint

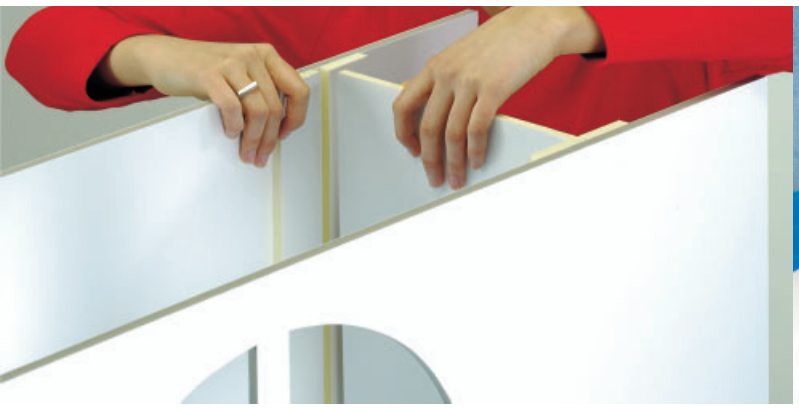
- Board edges, for example of large format photo segments, can be joined together using contact cement (allow sufficient drying time) or hot-melt pistols.
- Depending on the size and area of application, strips can be glued to the reverse side, covering the joint and providing additional strength.

Glued T-supports

- Cut a support and two stabilising strips.
- Attach the two stabilising strips with contact cement (allow adequate drying time) or a hot-melt pistol, leaving a gap to insert the support (the gap should be slightly narrower than the thickness of the support).
- Insert the support between the two stabilising strips and glue into place.



- Contact cement can be spread over the foam edges and surfaces using a spatula made of KAPA® board off-cut.
- Keep KAPA® off-cuts to make mountings, supports and reinforcement pieces – and for making useful (cement) spatulas.



Constructional H-support connections, glued

- Follow the same steps as for the T-support, butt-join two boards together creating an H-profile.
- The number of H-supports required depends on the size and strength needs of the object being constructed.

Layering

- KAPA® material can be glued together in layers to form a composite construction of any thickness, using for example contact cement (be sure to allow adequate drying time), hot-melt pistol, double-sided adhesive tape or mounting film.
- The composite construction can then be shaped using standard model building tools like cutters, utility knife, rasp, file or sand paper.

Edge protection / Framing

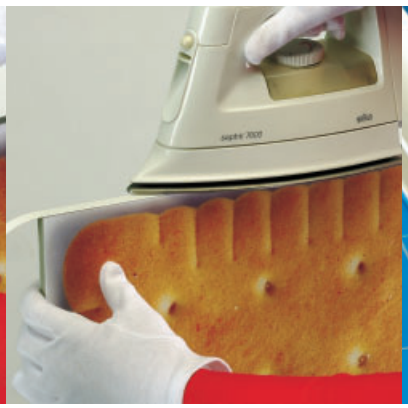
Wherever the sight of an open foam edge would be considered unsightly, or where the finished item requires edge protection, a number of solutions are available, for example cut strips, hot-melt adhesive edge strips, cut to size clip profiles and framing profiles. These solutions can be cut to size to achieve the desired finishing. All KAPA® lightweight boards are compatible with solvent-based contact cements. The polyurethane foam core will definitely not swell or dissolve.

Hard PVC KAPA® clip and connector profiles (white, available in U, H and W sections for five and ten millimetre board thicknesses) provide not only perfect edge protection but offer the option of connecting KAPA® segments together, either in a row or as flexible, folding wall displays.
For framing jobs, specialist shops offer a wide range of plastic and metal profiles for KAPA® boards.

Processing instructions for KAPA® lightweight boards

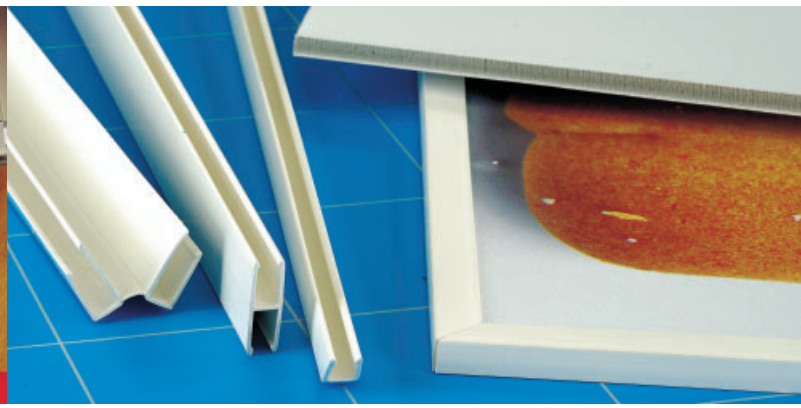
Gluing strips to open edges

- PVC strips can be purchased from specialist shops or be cut from a PVC sheet using a utility knife and then glued to the board edges with e.g. a contact cement (be sure to allow adequate drying time) or a hot-melt pistol; carefully trim off any excess material using a utility knife and smooth with a fine sand paper if necessary.



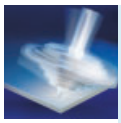
Heat activated edge strips

- Unwind the desired length of the heat-activated strip from the roll; place the strip on the foam edge and iron in place (see manufacturer's instructions for application details). Cut off any overlapping material using a utility knife and if necessary smooth the edges with fine sand paper.

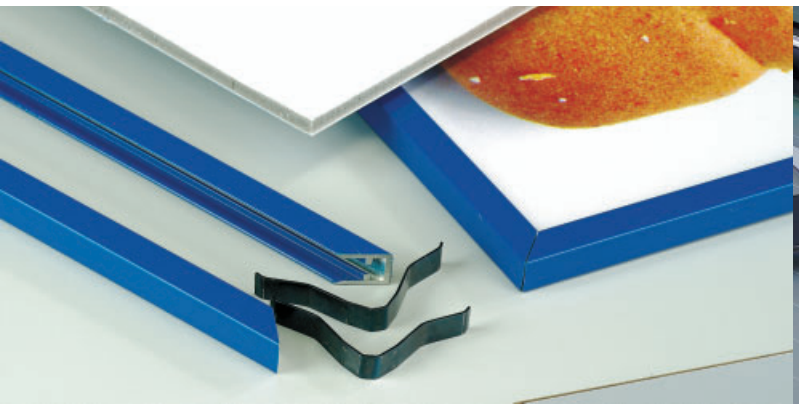


Framing a board with KAPA® clip profiles (U/H/W PVC profiles)

- Cut the profile to the desired length using a mitre saw.
- Slightly compress the edges of the KAPA® board by e.g. running the handle of a utility knife along the edge; this makes for easier mounting of the profile.
- Slide the profile on the board edge (in the case of simple framing with no loads, no extra adhesion is required; in the case of load-bearing H and W profiles it is recommended to add some adhesive to the board edge).



- Contact cement can be spread over the foam edges and surfaces using a spatula made of KAPA® board off-cut.
- Keep KAPA® off-cuts to make mountings, supports and reinforcement pieces – also as a useful (cement) spatula.
- Make practical picture angles for picture sections using KAPA® off-cuts.



Framing a board with aluminium frame profile strips

- Cut the profile to length using a mitre saw.
- Fasten non-clamping profiles together with corner connecting clips.
- Slide the KAPA® board into the frame before connecting the final profile section (no additional adhesive is required).

Cutting passepartouts

- After deciding picture section and sizes, mark the passepartout section on the board's reverse side.
- Place the cutting edge on the board's reverse side so that the straight or angled cuts can be made with the cutter or a special passepartout cutter along the marked cutting lines working in a clockwise direction.
- Adjust the blade and move the blade so that the board is cut through in the first stroke. Cut slowly and evenly – always follow through continuously with the cut from beginning to end. Stopping and starting will result in broken lines.

For more information, please contact the manufacturer: see appendix for addresses.

Hanging / Affixing

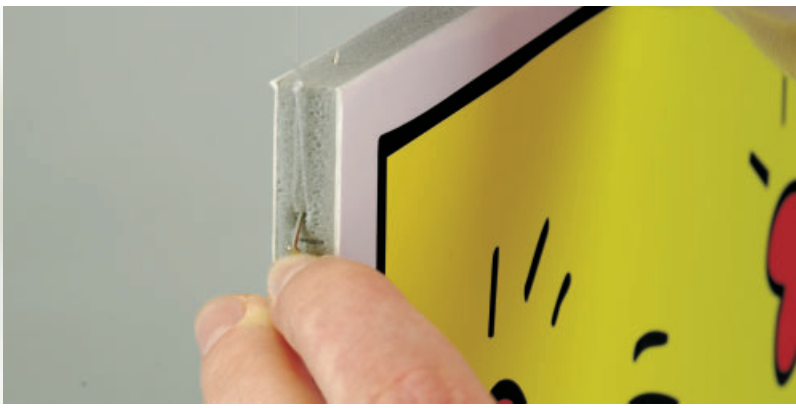
In principle, any KAPA® lightweight board can be fixed in place using nails or wood screws. Having said that, more sophisticated solutions achieve better results with invisible mounting methods, for example using glued joints with foam adhesive tape or Velcro strips. Interesting depth effects can be achieved quickly and inexpensively using KAPA® board off-cuts as spacers.

A range of special KAPA® metal hangers is available which directly anchor into the polyurethane core, allowing fast and easy presentation of even large format boards with two display sides (e.g. ceiling mounted hanging pictures). Even a small drilled hole and a piece of nylon string can open up a huge spectrum of possibilities for creating hanging displays and mobiles.

Processing instructions for KAPA® lightweight boards

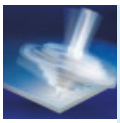
KAPA® metal hangers

- Position the hanger and simply push the hooks through the cover layer into the foam core; take care in the case of 3 and 5 mm boards not to push the hook through the foam core and into the bottom cover layer.
- Metal hanger eyelets are suitable for cords or hooks.



Deco-pin hanging

- Press the deco-pin diagonally into the foam core at the corners and hook over the nylon string loop.



- When fixing with Velcro, always apply the fleece tape to the KAPA® board, this prevents the open hook side of the Velcro scratching other images.
- In the case of larger board formats, increase the number and length of Velcro strips accordingly.

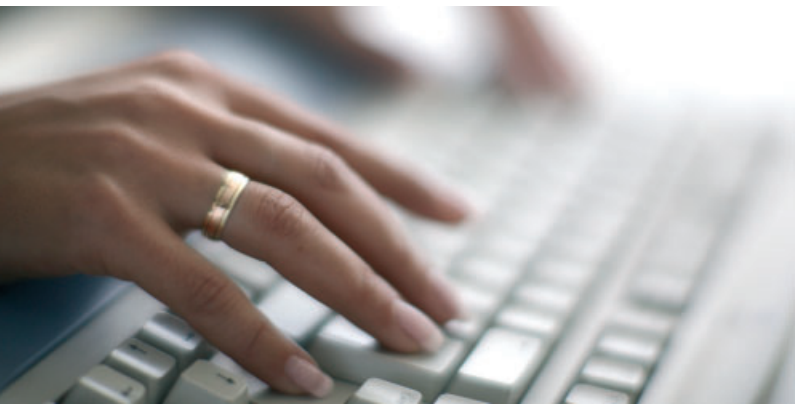
Velcro connections

- Velcro strips are ideal for straightforward fixing arrangements; simply remove the backing paper from both tapes and apply first to the back of the KAPA® board and then onto the clean, grease-free substrate (self-adhesive Velcro strips are available from specialists shops on rolls or punched pieces).

Services

You can expect that little bit more from the market leader in the lightweight board industry. We have e.g. a sample-box and sample-board service, all technical datasheets are available as downloads, while technical application advisers are also available for individual consultation. Basically, we want to make it easy for you to learn about and use the benefits of the versatile world of KAPA®.

The KAPA® Customer Service centre is available at:
www.kapa.eu



■ The KAPA® sample box display showcases the standard board programme in DIN A4 format. For details of sheet sizes and thicknesses available of the individual board types, see the sample labels.

Test certificates

Our customers can depend on our consistently offering highest quality standards. Quality assurance in the form of a multi-dimensional quality management system is in place in all corporate sectors as the basis for continuous ongoing control and checks of KAPA® production in its entirety, from raw material purchasing over production and through to delivery.

Our portfolio of international certificates from accredited organisations provides full documentation of our no-compromise approach to reliability.

Quality as per DIN ISO EN 9001:2000
This certificate documents the planning, implementation and ongoing control based on an in-house quality management system to achieve utmost standards in production and performance by way of optimised flows and processes. The certificate is issued by an independent, accredited certification organisation. Certificate validity is monitored in regular audits.

Environmental management as per DIN ISO 14001:2004
This standard has the intention of avoiding/reducing environmental pollution caused by industrial operations. Regular auditing of environmental aspects ensures continuous minimisation of environmental influences. Ongoing monitoring of the sustainability of measures ensures conservative use of resources.

Health and safety at work as per OHSAS 18001
Occupational Health and Safety Assessment Series describes an ongoing training programme for staff members with the objective of preventing accidents at work and raising self-awareness in order to enhance safety and health at work.

Fire protection classification as per DIN EN 13501-1
This is a new European-wide building material classification implemented to review and assess materials with respect to flammability and resistance to fire. This replaces the previous German material classes as specified in DIN 4102. KAPA® products **KAPA®fix-1** and **KAPA®mount** have already been subjected to testing compliant with the new standards. Both products have E Classification (normal flammability).

Useful addresses

When our know-how reaches its limits, we are happy to refer you to specialists, whom we have often worked with over many years. These are networking connections we value highly, not only in terms of shared and in-house R&D. We regard these contacts as being one more vital facet of our service approach: an approach from which you can also benefit. Please make use of our good connections.

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Notes

KAPA®

Processing instructions

We are sure that our easy-to-use lightweight boards together with our practical instructions and tips will help you realise your ideas. All details provided in this brochure are based on our current knowledge and experience. Please bear in mind that, because of the large number of factors influencing the processing of our boards, it remains your responsibility to carry out your own tests and trials.

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