PROCESSING INSTRUCTIONS GENERAL PROCESSING INSTRUCTIONS SIBUGLAS PROCESSING INSTRUCTIONS ANTIGRAV



Product characteristics

To answer your questions as quickly as possible, our team has worked out a technical table with product characteristics, extra equipment and much more for each of our products:

BASE MATERIAL

As a base material we use a specially developed, highly impact resistant polystyrene type (HIPS). HIPS distinguish particularly by robustness, high impact and a very low weight. For our ACRYLIC-LINE we use as a base material ABS with acrylic surface. With PUNCH-LINE 3D products we use HIPS with background foil from A-PET.

Scratch-resistant PMMA is employed for the SIBUGLAS product group and PP glass fibre material is used for the ANTIGRAV range.

MATERIAL THICKNESS

The given material thicknesses refer to the stock program in non adhesive (NA) and self adhesive (SA) version.

SA SELF-ADHESIVE

SA means that the design sheet is equipped with adhesive at the back. For this we use high-quality acrylic adhesive substance or synthesis rubber (PUNCH-LINE 3D, MultiStyle).

In order to achieve maximum adhesion, always clean nonabsorbent surfaces with alcohol (ethanol, isopropyl alcohol).

Self-adhesive (SA) sheets are ideally suited to non-absorbent surfaces such as coated MDF/chipboard, glass, metal, plastic, etc. However, they are unsuitable for use on ceilings. Alternative processing options are available on request.

TOLERANCES

Machine-related dimensional and angle tolerances: +/- 1.0 mm in relation to 1,000 mm

Temperature-related dimensional deviations:

+/- 0.7 mm in relation to 1,000 mm at a temperature change of 10 $^\circ\text{C}$ (except ANTIGRAV)

ROLLED PACKABLE

Basically our design sheets are packed flat on pallets. However, in order to dispatch small consignments as favourably as possible, we have developed a packaging carton in which many of our design sheets can be packed rolled as well.

Basically, the following applies:

Design sheets in non-adhesive (NA) version are rolled with the decor side outwardly and design sheets in self-adhesive version (SA) are rolled with the glue side outwardly.

Exceptions:

LEATHER-LINE products and sheets with a magnetic film: always roll with the patterning on the outside.

PL3D,WOOD-LINE and DECO-LINE products with impregnated papers: always roll with the patterning on the inside.

Packed in boxes (480x480 mm):

DECO-LINE products with strips and sheets with a magnetic film: we recommend a maximum of 2 pieces per box.

DECO-LINE products with impregnated papers, LEATHER-LINE, PUNCH-LINE 3D and WOOD-LINE: we recommend a maximum of 3 pieces per box.

DECO-LINE (excluding products with impregnated papers), PUNCH-LINE, ACRYLIC-LINE, MSC and STRUCTURE-LINE products: we recommend a maximum of 6 pieces per box.

After receipt, rolled goods should be laid out flat for around 24 hours at room temperature and if necessary, subjected to additional weight.

SURFACE MATERIAL

In a changeable world we focus on lastingness and high standards by using 100% PVC-free surfaces.We make a distinction between:

- Polyurethane synthetic leather surfaces (PU)
- Polyester imitation fur surfaces (PET)
- Metallized surfaces (PET)
- Printed surfaces (Print)
- Acrylic surfaces (PMMA)
- Impregnated papers

All variations are optically outstanding and also fascinate by their unique haptics. They correspond to the highest demands and they are suited especially for the interior area.

MAXIMUM RELIEF HEIGHT

With the given data we define the highest position of the respective design in non-adhesive (NA) and adhesive (SA) version.

PRINTING

Owing to the many differing printing and colour systems, customers must carry out a printing test. The result will depend on the respective motif. We will be pleased to provide original samples for testing.

- SIBU guideline values:
- PRD digital printing possible
- **PRS** screen printing possible
- PR+ digital/screen printing possible
- PR+* digital/screen printing possible, prior to printing a corona or plasma, treatment has to be carried out. By request available in pre-treated version.
- PRS* screen printing possible, prior to printing a corona or plasma, treatment has to be carried out. By request available in pre-treated version.

SCREEN PRINTING:

The final adhesion performance will set in very slowly and can take up to one week on air-drying (20 $^{\circ}$ C.).

TEMPERATURE STABILITY

We supply to more than 70 countries in the world and have nearly everywhere special climate situation. Therefore we test our material under the hardest conditions. Already during development stage our SIBU design sheets are tested in special thermo-containers stuck on ground as well as unstuck with high temperatures and high air humidity.

Only the very best qualities correspond to our strict directives. The given data of the temperature stability refer to the lasting application of the product stuck on different grounds and to the long-term using temperature also without adhesion.

WET ROOM SUITABILITY

An exposure of SIBU design sheets to humid areas is given when a design sheet is subjected to short term humidity condition. This humidity condition can occur by reason of high air humidity or by direct sprinkling water. SIBU design sheets are not suited for the direct wet space area as well as for long-term wet influence (except SIBUGLAS).

■■■ Wet room suitability

■■■□ Wet room suitability, but material reacts more sensitively to sprinkling water. Removing of moisture is recommended.

ABRASION RESISTANCE

Products with marked abrasion resistance **AR** show an extremely abrasion resistant surface. Our technology team already tests the products during development process to be able to offer the matching product for each of your demands.

- Scratch resistant (SIBUGLAS AR+)
- **Excellent abrasion resistance**
- ■■■■■□ Very good abrasion resistance
- ■■■■□□ Good abrasion resistance
- ■■□□□ Normal abrasion resistance
- ■ □ □ □ □ Low abrasion resistance
- ■□□□□□ Use only in the decoration area

Extra equipment

We are aware of the fact that not always you can use our standard stock articles for your intended application and offer for you special extra equipment.

FIRE CLASSIFICATION

The products from the stock program correspond to the fire safety regulations according to DIN 4102 B2, excluded products ACRYLIC-LINE (test standard: UL Standard 94, measured value: 94 HB). Marked products **FR** are available in flame retardant version on request, on a different carrier material. Certificates of the following standards are available: EN 13501-1 and ASTM E 84. Info sheets on demand!

CUTTINGS

You want to get customized sheets or cuttings? Please contact us that we can offer the best possible solution to you. With a cutting length up to 3.2 meter and a punching and sawing length up to 3 meter we are able to meet your requirements and needs promptly.

PVA PRE-TREATMENT

In order to be suitable for PVA bonding, depending upon the material thickness on the reverse side, SIBU design sheets either have to be pretreated by means of an additional production process, or roughened by using a vibration sander (80-grain sandpaper).

Being able to carry out this pre-treatment for you in our factory, we absolutely need this information together with your order.

SPECIAL FORMATS

In addition to the standard sizes given in the OVERVIEW we offer with pleasure individually adapted product dimensions.

FURTHER THICKNESSES

Responding to your request we produce our DECO-LINE and PUNCH-LINE in thicknesses between 0.8 and 4.0 mm.

MAGNETIC

All SIBU design sheets are available with a magnetic back from 3 pieces onwards. Exception - all LL ROMBO, LL QUADRO, LL CRISTAL ROMBO and PUNCH-LINE.

SIBU magnetic foils are suitable on different metallic grounds and on magnetic colours. The exchange of design sheets thereby becomes a child's play! The application fields for the new SIBU DESIGN magnetic program are nearly unlimited – for shop-window decoration, shop fitting and fair design or in the furniture area, decoration field and for all kinds of displays.

Self-adhesive SIBU metal film is employed when a suitable metallic ground is lacking. The metal film can be ordered as a sheet $(2,600 \times 1,000 \text{ mm})$ or roll (14 or 29 m)

Processing (except SIBUGLAS and ANTIGRAV)

Please note that SIBU design sheets always have to be processed from the decor side.

SURFACE PROTECTION

A protective film protects our surfaces against damages. This protective film should be removed only after the application of our design sheets.

PUNCHING

Band steel cutting is recommended for design sheets in thickness from 1 up to 1.5 mm.

Please study the technical table in the overview in order to see if this processing step is permissible for your product.

DRILLING

All SIBU design sheets can be drilled from the decor side.

MILLING

For material up to 2 mm thickness:

Cutter with 3 mm diameter, rotation speed from 12000 up to 24000 rpm, progressive feed up to 12 m/min.

Decor side on top:

milling cutter with a left-hand twist, cutting right.

Decor side below:

milling cutter with a right-hand twist, cutting right.

For material with a thickness of more than 2 mm, reduce the progressive feed and use a milling cutter with a larger diameter (6 mm).

SMALLEST BENDING RADIUS

The given data refer to the smallest bending radius for concave or convex fixing. For all design sheets – with the exception of MultiStyle – all sheet edges must be fixed mechanically in any case! For MultiStyle there is no need for mechanical fixing!

HOT BENDING

Heat up the SIBU design sheets from the backside – for both, internal and exterior angles.

Approximate parameters for material in Imm thickness: wire temperature: approx. 200°C, heating time: approx. 6 seconds

For ACRYLIC-LINE, PUNCH-LINE, DECO-LINE and STRUCTURE-LINE design sheets hot bending is outwardly (decor outside) possible – hot bending inwards (decor inside) is possible only with plain designs or with fine structures. For deeper structures - no exact internal angle.

Hot bending with LEATHER-LINE design sheets is possible outwardly (decor outside), inwards (decor side inside) only with plain LEATHER-LINE. Using structured leather designs it can happen that wrinkles may appear along the internal angles.

CUTTING

SIBU DECO-LINE sheets with less than 2 mm thickness can be easily cut with a wallpaper knife. Simply notch the surface and break along the edge. For all other product lines and for DECO-LINE sheets up to 3 mm thickness the cutting pressure has to be increased After cutting and breaking our self-adhesive (SA) design sheets as well as 3D PUNCH-LINE designs (NA + SA) the foil on the back side has to be cut separately. Always use well sharp knives.

SAWING

SIBU guideline values: Material thicknesses of up to 1 mm: HW 280x3.2 / 2.2x30 Z60 / 12.46-18.08 WZ

Thicker than I mm: HW 250x3.2 / 2.2x30 Z40 / 19.63 WZ/FA HW 250x3.2 / 2.2x30 Z40 / 19.63 FZ/TR (speed 6000 rpm, progressive feed of up to 25 m/min).

For LEATHER-LINE: HW 255x2.8 / 2.0x30 Z80 / 10.01 FZ WZ (speed 6000 rpm, progressive feed of up to 10 m/min).

The best result with LEATHER-LINE is achieved with MDF underlay (4 mm) above and below, slow progressive feed and high speed.

*HW (hard metal material),WZ/FA (alternating teeth/bevelled edge), FZ (flat teeth),TR (trapezoidal teeth)

LASER CUTTING

All SIBU design sheets can be processed with standard lasers. The cutting speed conforms to the watt power of the laser.

Please refer to the technical data in our Overview broschure, if that processing step is permitted for that product.

THERMOFORMING

With a variety of Deco-Line products light forming, by using flat and not sharp-edged tools, is possible (avoid sharp contours and use larger radii). With every new moulding test are to be made, in order to obtain ideal results. The tool must be adapted to the material.

Refer to the technical table in the Overview catalogue whether this processing step is suitable for your product or not.

PVA-PRESSING

Non-adhesive design sheets from our DECO-LINE, LEATHER-LINE, STRUCTURE-LINE, ACRYLIC-LINE and ANTIGRAV series (with a few exceptions) are compressible with commercial PVA adhesives. The ground must be absorbent (MDF, chipboard, etc.)

In order to be suitable for PVA bonding, depending upon the material thickness on the reverse side, SIBU design sheets either have to be pre-treated by means of an additional production process, or roughened by using a vibration sander (80-grain sandpaper).

Should by reason of transport or stock conditions the design sheet not have a crease-free protective film, the film should be removed prior to pressing process. The pressure applied should amount to 2 kg/cm^2 (0.2 N/mm²), the temperature to approx. 45°C and the pressing time to around 10 minutes. The bonding of the balancing material and the design sheet should be done in a single working process. During pressing onto an untreated particle board in 16 mm thickness, best results were achieved with a 1 mm polystyrene balancing sheet.

When pressing structured design sheets (STRUCTURE-LINE, ACRYLIC-LINE and LEATHER-LINE), a medium-hard sponge rubber mat with a thickness of approx. 5 mm should be used between the pressing sheet and the patterned side of the design sheet. This provides uniform pressure distribution and prevents undesirable crushing spots.

When using DECO-LINE sheets it is better to press without the sponge rubber mat. The mat could cause irregular optics in the mirror surface. If you want to have a perfect mirror result, ask us for design sheets in 2 mm thickness.

Following pressing allow the sheets to cool in a stack over night (about 16 hours). Cover the stack with a 19 mm plate so that the uppermost sheet also remains flat.

As a result of this type of processing, standard edges of plastic, aluminium or wood can be used! The PVA adhesive prevents the usual expansion of our design sheets due to the effect of increased temperature!

Accessories

SIBUKLE D22HV

Solvent-free dispersion adhesive

The best suitable spatula size A1 or A2 is given for each product.

Applications: SIBUKLE is highly suitable for the bonding of SIBU products onto absorbent, flat surfaces such as wood, plywood, particleboard, gypsum plasterboard, concrete or smooth brickwork.

WARNING: SIBUKLE is entirely unsuitable for non-absorbent surfaces such as tiles, plastics, metals, glass, etc.

Please follow the processing guidelines on the adhesive label.

STORAGE INSTRUCTIONS

SIBU design sheets must always be kept in indoor stock, no storage outside! Following instructions are to be considered:

- Design sheets to be stored flat, rolled packed design sheets should be unpacked and laid out flat and - if necessary - subjected to additional weight to improve flatness (Use carton underlay and weigh down the entire sheet in order to prevent damage.)
- · Store the uppermost plate in the pile with decor side down.
- Protect SIBU products from UV rays.
- Do not expose SIBU products to moisture or humidity.
- · Protect material from dirt, dust and mechanical damages.
- A permanent storage of more than 3 months at a temperature less than 0 °C or more than +30 °C may impact the quality of our design sheets and should be avoided.

TRANSPORT INSTRUCTIONS

In general, for the transport of SIBU products pay attention to protect them from dirt, UV radiation, moisture and mechanical damages.

- Use stable, flat pallets with carton bedding, the pallet should be longer than the design sheets.
- Place the uppermost design sheet on the pallet with the decor side face down. This uppermost design sheet should be protected in addition by a carton and a board (e.g., chipboard, HDF...).
- The design sheets should be protected from shifting.
- The edges and sides must be also protected (edge protection, PE foil ...)
- Avoid temperatures below 35 °C or more than + 50 °C.
- Structured sheets to be transported on pallets with the patterns running in same direction.
- SIBU products must be acclimatized prior to processing; ideal processing temperature is approx. + 10 °C to + 30 °C.
- Before any processing of the design sheets read the attached processing instructions which you can also find on the SIBU website!
- SIBUKLE should not be long-time stored below + 5 °C and must be protected from frost during transportation.
- Rolled packable: please see page 144

Cleaning / Disposal

CLEANING

DECO-LINE, STRUCTURE-LINE, ACRYLIC-LINE, PUNCH-LINE, PUNCH-LINE 3D: in case of light dirt by means of soft cleaning cloth (it should be free of dust and free of dirt). In case of heavy dirt by means of standard plastic or window cleaner (spray cleaners not onto the material surface, but sparingly onto the cleaning cloth).

Do not use abrasive cleaners, solvent cleaners or pure alcohol!

LEATHER-LINE: Clean leather surfaces by means of standard liquid soap and then remove the soap with a humid cloth.

Imitation fur surfaces: In case of light dirt clean LL Marabu with a vacuum cleaner, in case of heavy dirt clean with a humid cloth.

DISPOSAL

The keeping of healthy environment has high priority for us! We check all raw materials used for their environmental compatibility. Because not everyone has its own plastic disposal container, we pay special attention in development of new products to use only high-quality materials: materials, which may be disposed safely with the domestic waste. On demand we are pleased to provide LGA certificates for all SIBU design sheets.

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(except SIBUGLAS und ANTIGRAV)

GROUND PREPARATION FOR GLUING

The ground must be dry and smooth, and free from loose material, dust, dirt, grease, wax and silicone. SIBU patterned sheets should never be mounted onto an uneven surface, as this results in a loss of visual quality.

In the case of convex and concave surfaces, the sheet edges must be fixed mechanically (except for MultiStyle).

Non-absorbent surfaces

In order to achieve maximum adhesion, always clean non-absorbent surfaces with alcohol (ethanol, isopropyl alcohol). Self-adhesive (SA) sheets are ideally suited to non-absorbent surfaces such as coated MDF/chipboard, glass, metal, plastic, etc. However, they are unsuitable for use on ceilings. Alternative processing options are available on request.

Absorbent surfaces

A solvent-free adhesive, which is suitable for both the underlying surface and the polystyrene material (base material), must be employed on absorbent grounds, e.g. uncoated chipboard, MDF, plasterboard, or smoothed brickwork. Sibu recommendation: SIBUKLE.

BONDING

Patterned sheets delivered in rolled form must be kept flat for a minimum of 24 hours. Weighing down improves evenness.

Ideal processing temperatures range from $+ 10^{\circ}$ C up to $+ 30^{\circ}$ C. The design sheets should be acclimatised, i.e. be brought to room temperature prior to processing (avoidance of condensation on the gluing surface and a reduction in sheet expansion due to reduced temperature differences).

A temperature increase of 10° C will cause our products to expand by approx. 0.7 mm over a length of 1 meter. As a rule, expansion gap of approx. 2 - 3 mm should be kept at each sheet edge!

In case of high surroundings temperature or major temperature-fluctuations the expansion gap should be increased or the sheet format should be chosen smaller. Avoid blistering (air inclusions); use a medium-hard hand rubber roller with a width of approx. 170 mm.

Remove the backing cover step-by-step from self-adhesive design sheet (SA), do not touch gluing surface and press the sheet onto the ground as firmly as possible. The final adhesion power will be reached at room temperature after 24 hours.

PROCESSING SIBUKLE

Application: SIBUKLE is ideally suited to the bonding of SIBU products onto absorbent, even surfaces such as wood, MDF, plywood, chipboard, plasterboard, or smooth brickwork. The underlying surface must be absorbent (MDF, chipboard, etc.).

WARNING! SIBUKLE is not unsuitable for non-absorbent grounds such as tiles, plastics, metals and glass, etc. As a rule, an approx. 2 to 3 mm expansion joint is to be left along the sheet edges!

Processing: Apply only to the cleaned surface, which has been prepared for bonding, using a fine spatula (the spatula toothing for every product is provided in the OVERVIEW catalogue). With an ambient temperature of between 20 °C and 35 °C, the adhesive should then be left to air for 20 to 40 minutes. No drying time is required for PNL products, which are to be bonded in a wet adhesive bed. Fix mechanically if necessary, until the adhesive has hardened.

The higher the ambient temperature, the shorter is the airing time.

Finger test: following application with the spatula, the optimal airing time is reached as soon as the adhesive no longer sticks to the fingers! Avoid the formation of bubbles (air inclusions) and use a medium-hard, rubber roller with a width of approx. 170 mm.

If other solvent-free dispersion adhesives are employed, the respective processing instructions are to be followed.

Storage: In the original airtight containers the adhesive can be stored up to 12 months from delivery date. Store always above freezing point. Protect from frost, otherwise the glue cannot be used anymore!

GROUNDS – BONDING – EXPANSION GAPS

The ground must be dry and smooth, and free from loose material, dust, dirt, grease, wax and silicone. SIBU patterned sheets should never be mounted onto an uneven surface, as this results in a loss of visual quality.

In the case of convex and concave surfaces, the sheet edges must be fixed mechanically.

Non-absorbent surfaces:

In order to achieve maximum adhesion, always clean non-absorbent surfaces with alcohol (ethanol, isopropyl alcohol).

Self-adhesive (SA) sheets are ideally suited to nonabsorbent surfaces such as coated MDF/chipboard, glass, metal, plastic, etc. However, they are unsuitable for use on ceilings. Alternative processing options are available on request.

Absorbent surfaces:

A solvent-free adhesive, which is suitable for both the underlying surface and the polystyrene material, must be employed on absorbent grounds, e.g. uncoated chipboard, MDF, plasterboard, or smoothed brickwork. Sibu recommendation: SIBUKLE D22 HV.

Ideal processing temperatures range from + 10 °C to + 30 °C. The design sheets must be acclimatised, i.e. be brought to room temperature prior to processing (avoidance of condensation on the gluing surface and a reduction in sheet expansion due to reduced temperature differences).

A temperature increase of 10 °C will cause our products to expand by approx. 0.7 mm over a length of 1 m.

As a rule, an approx. 2-3 mm expansion joint is to be left along the sheet edges!

In the case of high ambient temperatures, or major temperature fluctuations, the expansion gap should be increased, or a smaller sheet format selected.

Remove the paper backing from the reverse side of selfadhesive patterned sheets (SA) step-by-step. Do not touch the adhesive surface and press the sheet onto the ground as firmly as possible. Avoid the formation of bubbles (air inclusions) and use a medium-hard, rubber roller with a width of approx. 170 mm.

Full adhesion will be reached at room temperature after 24 hours.

Whenever possible, SIBU DESIGN products should be processed within 12 months (except for PVA pre-treated products, please see the PVA news update at www.sibu.at).

They are not recommended for use near open fires or sources of intense heat.

BONDING USING SIBUKLE

SIBUKLE is suitable for the bonding of SIBUGLAS products on absorbent, level surfaces such as wood, plywood, chipand plasterboard, concrete or smoothed masonry. PLEASE NOTE: SIBUKLE is totally unsuitable for non-absorbent surfaces such as tiles, plastic coverings, metal, glass, etc.

Processing: once the ground surface for laying has been prepared and cleaned, fully cover it alone with adhesive using a spatula with A2 teeth and then press down. It is essential that SIBUGLAS products be bonded in a bed of wet adhesive. When required fix mechanically until the adhesive has hardened. Please follow the processing guidelines on the adhesive label.

BONDING & POINTING WITH SIBU SILICON

(Acetic acid free, textured natural stone silicone)

Bead bonding:

Place strips of mirrored adhesive tape vertically on the reverse side of the sheet at a distance of 10 mm from its edges or the profile flanges, thus leaving gaps all round. It is recommended that the protective strip on the mirrored tape be removed prior to the further processing phases. Apply vertical beads of adhesive to the reverse side of the

sheet at intervals of approx. 60 mm. Depending on the underlying surface, the beads should have a height of at least 4 mm.

Bring the sheet into position without any drying time and then press it down onto the prepared surface by means of vertical strokes with a soft wallpaper roller.

Once the adhesive has hardened, the joints and gaps must be sealed carefully with silicone.

Immediately remove the protective film from the sheet and any possible adhesive residues.

PVA BONDING

(please see page Seite 156)

MAGNETIC

With SIBUGLAS MAGNETIC professional decoration changes become child's play. Deliveries can be made for orders of three sheets and upwards. Any surfaces suitable for magnets can be used as a ground and should these be unavailable, SIBU METALFOIL provides the solution.

SURFACE PROTECTION

All the top surfaces are safeguarded against damage by a protective film, which should first be removed following processing.

GOLDEN RULES

As a rule, complete processing on the patterned side (for this reason jig- and hand-held circular saw working must take place on the reverse side).

It is imperative that sheet flapping be avoided totally during all working phases.

Always lay the sheets out flat and if necessary pin them down.

Always use high-speed, sharp cutting tools and rapid feeding!

The generation of heat should be constantly avoided, as this can result in material tension.

MECHANICAL PROCESSING OF THE PATTERNED SHEETS PRIOR TO ADESIVE APPLICATION

Sawing

SIBUGLAS sheets can be cut with jig, hand-held circular, panel and circular table saws. During cutting on the reverse side, the underlay should also be sawn through. Then deburr all cut edges.

• Cutting to length using a hand-held or plunge cut circular saw

Cut from the reverse side and use a stable underlay. Recommended saw blade: 160x2.2 hard metal blade with 48 alternating teeth.

• Cutting to length using a jigsaw

Set the pendulum action to zero, or at a maximum to $\,I\,$ and then saw from the reverse side.

The patterned sheet must lie fully on the jigsaw cutting table in order to ensure that no vibrations are created. Recommended saw blade: employ saw blades with a tooth pitch of 1.2 to max. 2.5 mm. (coarse metal saw blade / fine wood saw blade / preferably PMMA saw blades).

Drilling

All drillings must be carried out on a stable underlay. Recommended drill: wood drill (centring tip drill), Forstner drill and hard metal drill with centring tip.

Core drills for wood can also be employed, but in this case it is essential that in the area next to the drilling the patterned sheet is attached firmly to a stable underlay.

FLAMMABILITY

SIBUGLAS products are subject to standard flammability pursuant to EN 13501-1 Class E.

LASER CUTTING

SIBUGLAS sheets can be processed using standard lasers. The cutting speed is in line with the laser wattage.

Note: Place the SIBUGLAS sheet on the laser machine in such a way that its reverse side is on the machine's extraction side. As is the case with all standard PMMA products, it is recommended that following laser cutting the material be "tempered". The high temperature of the laser causes tension in the material, which can lead to cracking. Tempering equalises these tensions.

PRINTING

SIBUGLAS AR+ products can be printed.

Owing to the many differing printing and colour systems, customers must carry out a printing test. The result will depend on the respective motif. We will be pleased to provide original samples for testing.

CLEANING / CARE

Standard household cleaners without scouring agents can be used.

DISPOSAL

Current LGA certificates exist for SIBUGLAS. We are pleased to make these available.

Private area: SIBUGLAS can be disposed of with the normal household refuse.

Commercial area: SIBUGLAS should be conducted to thermal disposal.

STORAGE INFORMATION

Always store SIBUGLAS products dry and flat, and protect them against the effects of humidity.

Wrap the sheets in plastic together with a silicate cachet and seal carefully. This prevents possible ripples along the sheet edges due to moisture in the air.

Outdoor storage is not possible

The following should be noted:

In order to prevent damage, the card underlay should be used and weighed down over its entire area. The uppermost sheet in the stack should be stored face down.

In storage, SIBUGLAS must be protected against sunlight and not come into contact with any liquids or damp.

The material should also be safeguarded against dirt, dust and mechanical damage.

TRANSPORT INFORMATION

When transporting SIBUGLAS care should be taken that the sheets are protected against dirt, UV rays, moisture and mechanical damage.

Stable, flat pallets that are larger than the sheets are to be employed with a card underlay.

The uppermost sheet must lie on the pallet with the structured face down. In addition, this top sheet should be protected by card and a slatted frame.

The edges and the sides must also be safeguarded (edge protection, PE film, ...).

The temperatures below minus 35° C or above 50° C should not be exceeded.

SIBUGLAS AR+ SA - BONDED ONTO COATED WOOD BASE SHEETS INCLUDING EDGES AND MILLING

MATERIAL REQUIREMENTS

SIBU decorative sheet:

SIBUGLAS SA dimensions: 2600 \times 1000 mm strongly adhesive

Wood base sheet:

Wood base sheet coated on both sides, dimensions: $2600 \times 1000 \text{ mm}$

Counter-pressure: Not required

Edge material: All standard furniture edging

PROCESSING STEPS

- I. Clean the coated wood sheet.
- 2. Remove the protective film on the adhesive side of the SIBUGLAS sheet.
- 3. Bond the SIBUGLAS sheet onto the wood base sheet using a rubber roller.
- 4. Immediately cut the bonded sheets into the desired final dimensions (saw).
- 5. Place the edgings on the edge gluing machine.
- 6. Using an electrical manual router, cut a rounded or chamfered edge exactly up to the point of transition from the transparent PMMA layer to the structured layer. Please see sketch! In combination, the edge material and the transparent PMMA layer give the resultant radius or chamfer. The thicker the edge material, the wider the facet.

FACET MILLING IS THE PREREQUISITE FOR AN EDGED END PRODUCT!





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SIBUGLAS AR+ PVA - GLUED AND PRESSED ON ABSORBENT WOOD BASE SHEETS

Whether on home furniture, in display windows, bars, hotels, or trade fair stands, today SIBUGLAS is used for a diversity of applications. SIBUGLAS is a multilayer sheet comprised of PMMA, PU leather, a special synthetic leather or a special paper. This multilayersheet can be bonded onto absorbent surfaces using PVA white glue. In order to ensure optimum flatness, we also deliver an accompanying, technically matching balancing sheet.

SIBUGLAS AR+ INCL. SIBUGLAS BALANCING SHEET

Both SIBUGLAS reverse sides are saturated with PVA white glue as evenly and quickly as possible using a roller. They are then laid on both sides of the absorbent wood base sheet and this composite is subsequently placed in a sheet press.

AS A RESULT, PERFECT, HIGH-GLOSS SURFACES CAN BE SIMPLY CREATED.

DESCRIPTION – STRUCTURE

SIBUGLAS decorative sheet

| ┌ PE protective film | | |
|--|---|-----------------------|
| - Scratch-resistant surface (AR+) | | |
| - Transparent PMMA layer, UV-resistant | | |
| Decorative layer | | |
| PVA white glue | | |
| | | |
| Wood base sheet | the second s | |
| minimum thickness of 16 mm! | ALCOLOGIE AND ALCOLOGIES | |
| Use thicker wood base sheets for larger formats! | | |
| Balancing sheet | | |
| ┌ PVA white glue | and the second se | and the second second |
| - balancing sheet | | |
| PE protective film | | |
| | | |

SIBUGLAS decorative sheets that have been glued and pressed in this manner can be easily processed with the majority of woodworking machinery and tools with good results. The PE protective film must be left on the top surface during processing. Optimum machine parameters, tool layout and cutting speeds are to be determined individually prior to production on the basis of a sample.

BONDING INSTRUCTIONS FOR SIBUGLAS SHEETS WITH PVA WHITE GLUE

Glue application: only use flat, wood base sheets!

The acclimatised SIBUGLAS structured and balancing sheets, as well as the wood base sheet, should be laid out adjacent to one another on a straight, clean and sufficiently large work table. The cut wood base sheet must be roughly 10mm larger than the SIBUGLAS sheets. **Both SIBUGLAS sheets should first be generously coated with PVA glue using a roller.** Owing to the highly absorbent SIBUGLAS reverse side, the consumption of PVA white glue is considerable. Subsequently, both SIBUGLAS sheets are positioned as quickly as possible on the middle of the wood base sheet.

! Warning! Glue should not be applied directly to the wood base sheet, as this can have a negative effect on evenness!

Pressing:

The composite sheet is now placed in the press for approx. 30 minutes at 30° C. Do not apply excessive pressure and take into account both your know-how and the values gained from personal experience. Standard value: 20 N/cm² or 2 kg/cm².

As soon as the sheets are removed from the press, they must be stored under stacking pressure for at least 12 hours in a FLAT position. A genuinely even surface is extremely important for the flatness of the composite sheet!

A second possibility for small batches is to press the sheets in the machine overnight at approx. 20° C. This type of processing eliminates the need for subsequent stack pressure.

Always clean the press thoroughly prior to processing SIBUGLAS sheets!

Cutting to length/edge trimming and other processing steps:

With standard woodworking machines: Recommendation: Fine cut saw blades

At the earliest, complete this work 12 hours after gluing/ pressing!

Edging application: As usual, any standard edging can be mounted in the familiar manner!

BALANCING SHEET

A technically matching balancing sheet is required for the glued and pressed composite (surface + wood base sheet + counter-pressure) that is ideally matched to the characteristics of the materials used. This virtually rules out warping due to heat, cold or fluctuating humidity.

For SIBUGLAS AR+ (PMMA 2 mm) we recommend the use of the **PMMA Balance Sheet White 2800x1250x2** (article number: 20278) for balancing.

If the PMMA White PX balance sheet has not been pressed within six months, we recommend a check on the surface tension of the reverse side and if required, its subsequent surface treatment.

Processing ANTIGRAV

Standard processing

ANTIGRAV can be bonded edge to edge and therefore does not require expansion joints. Readjustment on **any surface** is no problem when bonding with standard silicon or hybrid polymer adhesive is employed. ANTIGRAV can be cut to size by using standard cutting-tools. Processing to be executede from the patterned side.



Apply beads of silicone vertically (1 cm from the edge and with 6 cm-spaces between the individual beads).



Press the sheet onto the wall and then adjust it.



Bonding is edge to edge = 0mm expansion joint



+▼ entire panel length not shown in image



This information tool was provided according to the best knowledge and with special care. The information is based on practical experiences, test results as well as on in-house testing and corresponds to our today's state of knowledge. Detailed info sheets are available on request. No liability is accepted for misprints, norm errors and mistakes!





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