

**IMPORTANT
PROCESSING
INSTRUCTIONS
FROM EXPERTS FOR EXPERTS**

UPB[®] BOARDS

made of Resysta[®]

The new
design-board
for decorative
cladding

**PLEASE NOTE:
MAKE SURE
TO READ
BEFORE
PROCESSING!**

Valuable information for the processing of
UPB BOARDS made of Resysta



FUNDAMENTAL INFORMATION

Due to their natural look and feel and weather resistance, UPB boards made of Resysta are ideally suited for outdoor areas and especially damp rooms such as indoor swimming pools, spa areas or even wet rooms. In general, there are no limits to the imagination in terms of processing. However, the specific features of the material must be taken into account for planning and implementation. With UPB boards made of Resysta many shapes can be realized thanks to their thermoplastic properties. They

are homogeneous in their structure and industrial production guarantees consistent quality. There are neither longitudinal nor transverse fibers, which is why constructive support is required. The distances have to be determined depending on application and load (e.g. frame or full-surface bonding) to avoid undesired deformations.

Please Note:

UPB Boards are decorative boards and can not be employed for constructive implementation.

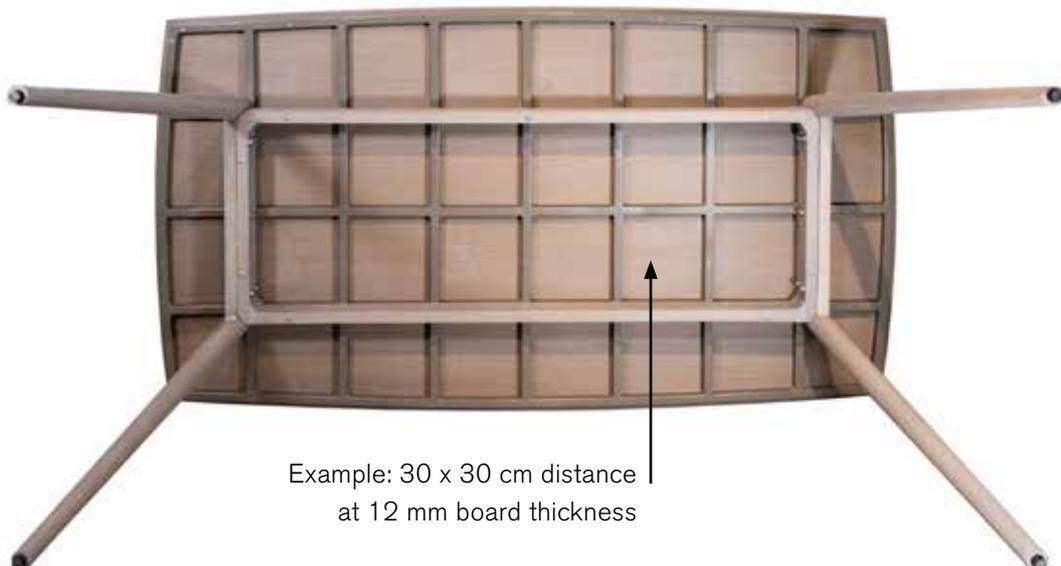
Do not exceed 15 mm from fastening point to edge, to avoid deformations at the edge.

Do not exceed maximum fixing distances to avoid deformation of the boards.

board thickness	8 mm	12 mm	16 mm	20 mm
maximum fixing distance in cm	25	30	35	40

Hint:

Depending on the kind of application, distances have to be adjusted accordingly. The more dense the support, the better - see image below. This also applies to facades!



1. GENERAL INFORMATION

1.1. Which UPB Board dimensions are available?

The standard UPB Board measures:
2440 mm x 1220 mm

1.2. Which UPB Board thicknesses are available?

6, 8, 12, 16 and 20 mm

The 6 mm board may solely be employed for full-surface bonding, e.g. front door facing.

1.3. What does thermoplast stand for?

Thermoplast material can be deformed by heating (in contrast to duroplast). After cooling, it is solid again.

1.4. Where can I obtain help for specific questions?

At your trained trading partner or our service number
+49 (0)89 248863099

1.5. How can UPB Boards be employed for facades?

We have successfully tested a number of dimensions and summarized recommendations in our flyer "Installation Guidelines Facade" (Download: www.UPB-Board.com). Please do not use larger dimension than specified.

1.6. Are UPB boards subject to deformation caused by high solar irradiation/heat the facade is exposed to?

Yes, being a thermoplast, UPB Boards may be subject to deformation if not fixed or fastened. However, this can be avoided with the right choice of substructure, fastening system and the adaptation of the board thickness in relation to the dimensions. This applies to indoor and outdoor use.

1.7. What has to be taken into account at minus temperatures? Can water penetrate the UPB Boards and cause frost damage?

Resysta is frost-resistant. Due to the material properties, water cannot penetrate the interior. Therefore the material cannot be affected by freezing water.



1.8. Are color-coordinated screws available?

Yes, provided by companies 'Reisser', 'SFS Intec'.



1.9. Which screws can be used?

UPB Boards can be screw-fastened very well. A variety of screws can be used. In general, the selection of the best screws depends on which screws you prefer to use for UPB Boards. For outdoor applications, stainless steel screws are recommended.

1.10. Which temperatures does the material resist (e.g. hot shower water)?

Hot water up to 60°C is no problem.

1.11. How rigid are UPB boards?

To avoid undesired deformations, please observe the minimum fixing distances. Refer to flyer "Technical Information" (Download: www.UPB-Board.com). The UPB Board may under no circumstances be used for constructive purposes.

1.12. What is the fire behaviour of the UPB boards?

Corresponds to EN 13501 „normal flammability“, comparable to wood. For more details please refer to flyer "Technical Information" (Download: www.UPB-Board.com).

1.13. Are UPB boards resistant to chlorine-water and salt-water?

Yes, UPB Boards are chlorine-water and salt-water-resistant. 80 years warranty is also valid for construction in salt-water and chlorine-water.

1.14. How can snow stains and salt stains be treated?

For cleaning, warm water, a brush and solvent-free cleaning agent are sufficient.



1.15. How can UPB boards be stored best?

Horizontally flat and planar; not vertically! On no account outdoors, but protected from sunlight in the storehouse or workshop, dry and at normal room temperatures.

1.16. How can UPB Boards be transported best?

Please use protective plate and accordingly edge protection.

2. PROCESSING

2.1. Is thermoforming of UPB Boards possible and how?

Yes, heat UPB Boards to 120°C for a short period, deform and let cool down. The heating time depends on the thickness of the sheet. For further details please refer to our flyer "Technical Information". (Download: www.UPB-Board.com).

2.2. What has to be considered with thermoforming?

Thermoforming can cause UPB Boards to shrink. Dependent on the thermoforming technology approx. 2 - 3%. Please make sure to employ prototypes and test. Do not exceed soaking time of 1 minute per mm sheet thickness at maximum 120°C. No enduring heating (exceeding 70°C) of the material. Please consider revertive cooling-time. We recommend varnishing after the thermoforming process to enable an even varnish layer.



2.3. Which tools can be used?

All common woodworking tools can be employed.

2.4. How can well-shaped edges be produced?

Sawing has to be done clean and slowly. After sawing, the edges should be slightly blunted. Gluing is not necessary.

2.5. How can UPB Boards be fully joined?

We recommend full-surface gluing. Additional screw connection is not required.





2.6. Can UPB Boards be glued?

Yes, UPB Boards made of Resysta can be glued very well with a variety of adhesives. – For details regarding the type of adhesives and substrates, please refer to our flyer "Technical Information" (Download: www.UPB-Board.com) and the instructions of the respective adhesive manufacturer.

2.7. Can I sand, for example, a 12 mm UPB Board to 10 mm?

Due to the densification of the surface on both sides, this would result in a loss of rigidity of the board. Sanding one side results in asymmetrical properties and the board would bend.

2.8. What happens, if UPB Boards are heated at 120°C for too long?

This could result in thermal damage. Do not heat any longer than necessary. Details are available in our "Technical Information" flyer. (Download: www.UPB-Board.com).

2.9. Is it necessary to also coat the edges when doing the surface coating?

We recommend all-over priming of the UPB Boards (including front and rear side as well as the edges) with RBP Primer. Then the edges can be finished in terms of color.



3. DISPOSAL / RECYCLING

3.1. Are UPB Boards recyclable?

Yes, very well indeed as the Resysta material is a thermoplast. UPB Boards made of Resysta have been awarded for their sustainability with the Green Product Award. Resysta has created its own recycling loop. For current take-back locations please refer to www.resysta.de. New products made of Resysta are produced from the returned material.

3.2. Can I burn UPB boards (waste, sanding dust, dismantling)?

No, under no circumstances! Please also separate the extraction during processing and do not burn sanding dust and waste etc., but deliver to one of the Europe-wide collection points for recycling.



4. INSTALLATION (FACADES)

4.1. Which mounting types work with UPB boards?

Depending on the application, screw-fastening and possibly additional gluing. Undercut anchors are not suitable. When mounting to substructures, use the appropriate screw for the particular application and substructure.

4.2. Which mounting distances have to be observed?

The mounting distances have to be adjusted depending on the application and thickness of the material. For details please refer to our flyer "Installation Guidelines Facade" (Download: www.UPB-Board.com).

4.3 What happens if the fixing distances are too big?

Undesired deformations may occur (see 'Fundamental Information').

4.4. Is it possible to glue UPB Boards to a facade substructure?

We generally recommend to not only glue. Gluing should only be done in addition to mechanical mounting and only on appropriate aluminum substructures.

4.5. Which substructures are recommended for facades?

Depending on the requirements and facade profile as well as the weather-related orientation of the facade, the weathering effects differ. Application category and rain exposure as well as standards must be observed. Basically, we recommend a ventilated curtain facade, designed to allow for ventilation to circulate vertically. First and foremost we recommend substructures made of aluminum. When using wooden substructures, the use classes (e.g. according to DIN 68800) must be observed and wood protection must be considered accordingly. Recommended is for instance the use of an EPDM tape.

4.6. What do I have to consider when screwing the UPB board onto a facade substructure?

The facade panels must be pre-drilled. The diameter of the pilot hole must be adapted to the type of screw used (countersunk screws - pre-drilling with screw shank diameter, round head screws - pre-drilling 0.5 mm larger than the screw diameter). If possible, please avoid constraints.

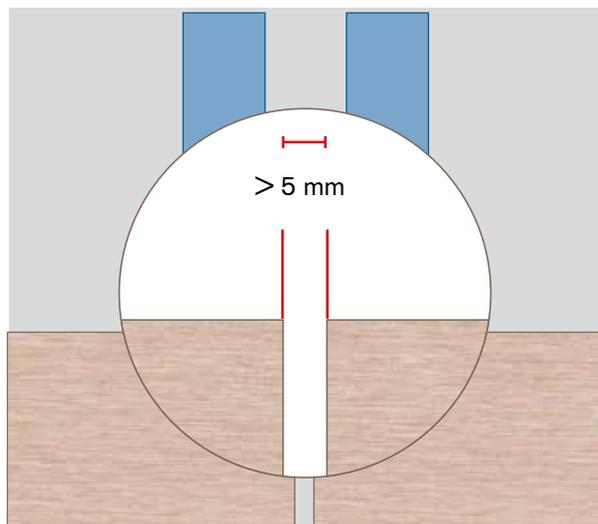


4.7. How large may the maximum projection and the substructure distance be?

The distance of the substructure on the facade primarily depends on the thickness of the board. See also the specifications at "Fundamental Information". Furthermore, please also note the important, detailed instructions in the flyer "Installation Guidelines" (Download: www.UPB-Board.com). In order to avoid deformation on the edge, it is obligatory to observe the instructions.

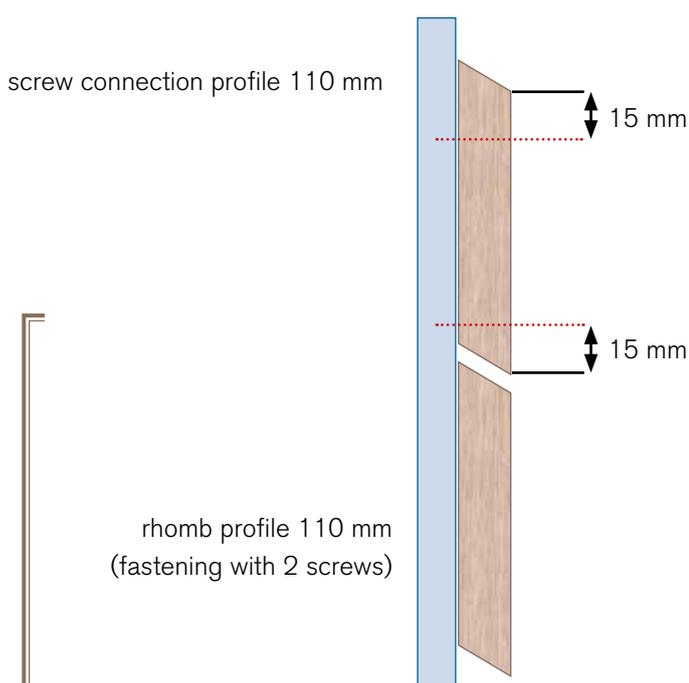
4.8. Does there have to be a joint between two abutting UPB Boards?

Yes, these have to measure at least 5 mm. When adjoining other structures, a joint of minimum 5 mm, must also be provided for.



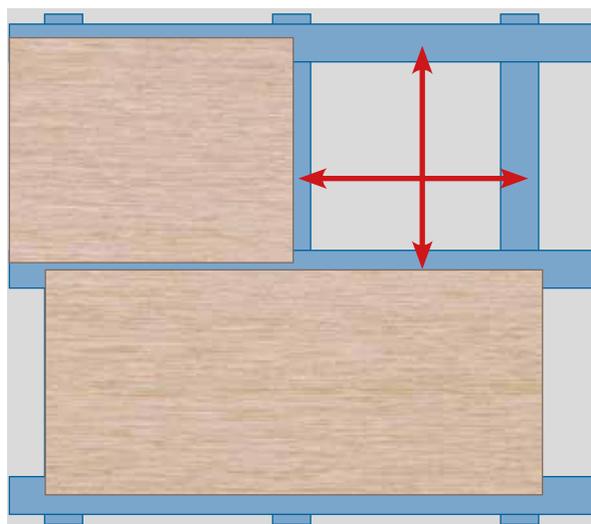
4.9. How do I install a rhomb facade made of UPB boards?

For profiles (here for example a 110 mm rhomb) at least 2 screws are required. For wider profiles, please consider the distance table at "Fundamental Information".



4.10. What is important to know about the curtain-wall, ventilated facade?

The ventilation distance must be at least 20 mm and may not be narrowed. Rear ventilation by thermal impulsion must be provided for. For the minimum ventilation cross-section of the substructure, observe and comply with the current standards. (e.g. DIN 18516-1). With horizontal support battens, vertical battens (counter battens) are recommended.



4.11. For which profiles do I need horizontal lathing?

For example: panel dimensions $L = 1200 \text{ mm}$ x $W = 300 \text{ mm}$ and horizontal layout (see illustration) the long side must rest on the substructure, this is especially important for board thickness of 8 mm or 12 mm. Please do not forget vertical base battens for ventilation.

Hint:

Exemplary representation of a rhomb profile. The given information also applies to other profile shapes.

To obtain a straight line at installation, it is recommended to use spacers. The joints should be at least 5 mm.

5. INSTALLATION (FLOOR, WALLS)

5.1. Is laying of a full board possible?

In the case of a full, even surface, we also recommend a full-surface gluing. For instance: outdoor parquet, shower walls, tiles, etc.. However, the adhesive has to be coordinated and tested for both materials. Please refer to the processing instructions of the adhesive manufacturer. (See 6.7.)

5.2. Can UPB boards also be used for floors?

Yes, if full-surface laying and gluing. Also possible in combination with underfloor heating. The joint width has to be according to the size the elements. Hereby, the thermal expansion of the material has to be considered. Cement-bound adhesives and jointing materials are not suitable.

6. FURTHER APPLICATIONS

6.1. What are particularly recommendable and suitable applications for UPB Boards?

Everywhere, where durability, longevity and low maintenance are particularly important e.g. outdoor areas (garden, outdoor furniture, facades) and damp rooms.

6.2. Applications NOT suitable for UPB Boards?

Everywhere, where the board requires constructive and static properties. The application in a load-bearing and stiffening construction is not permitted. The material is not approved by building authorities and has no CE label.

6.3. Can UPB Boards also be used for table tops?

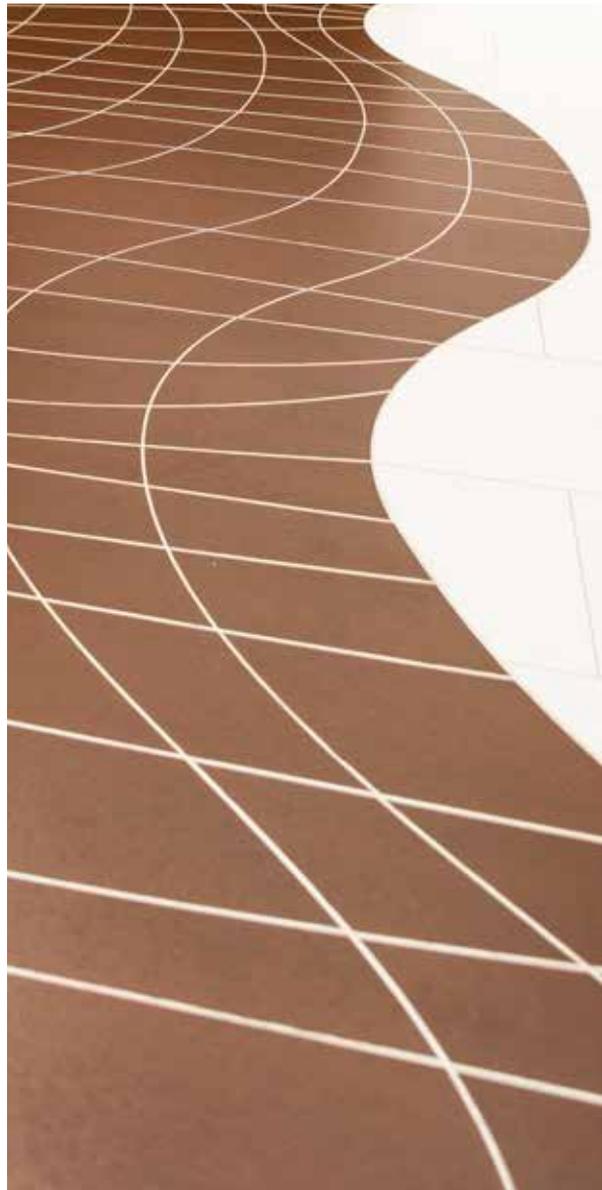
Yes. However, constructive reinforcements are necessary. These are dependent on the board thickness (refer to table and image at "Fundamental Information", page 2).

6.4. Can UPB Boards be used to build furniture, e.g. cupboards, chairs etc?

Yes! UPB Boards are decorative boards and require supporting construction, e.g. aluminum framework, to meet the static specifications of the furniture.

6.5. What has to be taken into account when used as shower screen or bathroom tile?

All-over gluing and suitable surface coating has to be chosen. Please ask your lacquer supplier.



6.6. Can patios also be built with UPB boards?

In principle, UPB boards can be used for outdoor flooring. However, it has to be taken into account, that the boards may not be subject to constructive

requirements. Therefore, conventional decking boards installed on a customary substructure are not feasible. Laying as outdoor parquet, fully glued, is also ideal for large areas. (For joint design see point 5.2.).

7. SURFACES

7.1. Do surfaces have to be treated for protection?

Resysta does not require any protection in terms of wood preservation (against rotting, decomposition, fungal decay, UV-radiation etc.). The board is UV stable and lignin degradation does not take place, e.g. unlike wood. Surface treatment is done only for visual reasons, for instance to protect against soiling or staining.



7.2. Why are there special Resysta paints?

The material properties of UPB Boards are not comparable with wood. The material does not absorb water, and thus does not emit any water. Therefore, vapor-permeable paints are not necessary for outdoor use. Conventional, transparent glazes for weathered outdoor areas are diffusion permeable and thus have a higher need for renovation. In order to reduce this renovation effort, transparent paints specially adapted for the properties of Resysta have been developed. All surface coatings offered by Resysta are designed for outdoor use, but can also be safely used indoors.

For non-weathered areas (i.e. interior areas), all commercially available, water-based paints and stains, which are suitable for the respective indoor area can be applied. For top coating, all conventional colors can be used, which are appropriate for the respective requirement of the surface. Further information can be found in our flyer "Technical Information" (Download: www.UPB-Board.com)

7.3. Why are different surface coatings available?

For UPB Boards made of Resysta surface coating we provide specially coordinated products according to requirements and application:

7.3.1. Resysta RBP-Primer, RCL Color Glaze and RCL Clear Lacquer:

Transparent stained lacquers for indoor and outdoor decorative color design, e.g. facade, fence, roof soffits (water-based, quick-drying and easy to process).

7.3.2. Resysta RBP-Primer, FVG Stain und RFS 2-Component Lacquer:

Transparent tinted stains are coated with an additional 2-component clear coat for mechanically and chemically highly resistant indoor and outdoor surfaces, e.g. floors and utility furniture. With regard to facades, the surface is graffiti resistant.

7.3.3. Resysta RTO OIL:

Naturally transparent colored oils, which can be applied and refreshed quickly and easily, ideal for easily accessible areas such as floors.

7.4. Why aqueous paints and no solvent based surface coatings?

Solvents attack the polymer content in UPB Boards made of Resysta and visually change the surface. With transparent coatings, the change in appearance is visible. Aqueous systems behave neutral towards the Resysta surface and feature very good adhesion. For opaque coating, solvent-based lacquers can be used, as the visual change is covered and not apparent.

7.5. Is it possible to use commercially available lacquer systems?

Generally all commercially available systems used for wood, metal or plastics can be employed. For durably good results, we recommend solvent-free, aqueous lacquers for plastics.

Only Resysta paint systems have a 25-year warranty against flaking.

7.6. Are Resysta surfaces "resistant against graffiti"?

Graffiti resistance is achieved by the type of coating. Chemically resistant surfaces can be difficult to dissolve with solvent, therefore graffiti can only be washed off on 2K Resysta RFS lacquer with a solvent (benzine) as the 2-component lacquer coat is solvent-resistant.

7.7. How durable are Resysta lacquers (warranty)?

This depends on the kind of application, the type of lacquer and the quantity applied. The thicker the layer, the the higher the durability. This is also weather-dependent (weather side, sand storm and

other mechanical influences). The 25 years warranty is valid for lacquers offered by Resysta to not flake off (large-scale detachment of pieces of paint). In order to maintain the optical brilliance of the surface, depending on the strain (e.g. weather-exposed side), the surface should be reconditioned.

7.8. How can lacquer/stain/oil be removed?

Surface coating can only be removed by sanding.

7.9. How can damages (scratches) be removed?

Scratches or mechanical damages can be easily reprocessed with the same products used for wood surfaces (by spot repair or repainting).



7.10. Does the rear side also have to be painted?

Due to coating, the surface tension is different. To avoid warping, the rear side should at least be coated with primer. In the case of furniture, both sides should be assembled identically (symmetrical).

7.11. Are there any color differences between RCL and FVG colors?

FVG stain is a water-thin pigmented stain with low solids content. Therefore, the pigmented film thinly covers the uppermost layer of the sanded surface

of the UPB Boards. RCL is a high solids content lacquer with scattered pigments. Since the different kinds of paint have a different coat thickness in which the pigments are distributed, the effect and thus the color is always slightly different.

7.12. How can differences in color occur?

All surface coatings provided by Resysta are transparent colored. The particular color depends to a great extent on the quantity applied and the preparation of the material to be coated. We therefore recommend to test the color in an invisible area before processing and only use it extensively after checking on the material to be coated.

7.13. How can coated Resysta surfaces be cleaned?

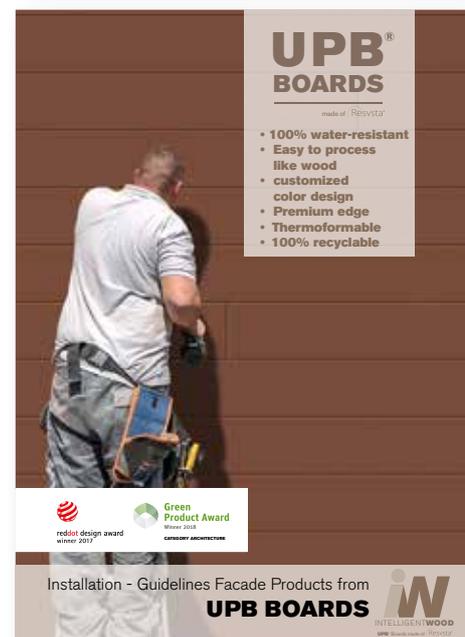
Depending on the type of coating, the surfaces can be cleaned with commercially available household cleaners. For stubborn dirt, we offer a cleaning concentrate - Resysta Surface Cleaner RSC. When using high-pressure cleaners, sufficient distance to the surface must be ensured to avoid harming the coating.

7.14. Are Resysta lacquers sprayable?

Yes, for details please refer to the technical information of the individual lacquer.

www.upb-board.com

Download of all current flyers



Please refer to our flyers "Technical Information" and "Installation Guidelines" with many detailed specifications for the installation of UPB boards

The new design-board for decorative cladding -
waterproof and with the natural look & feel of wood
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