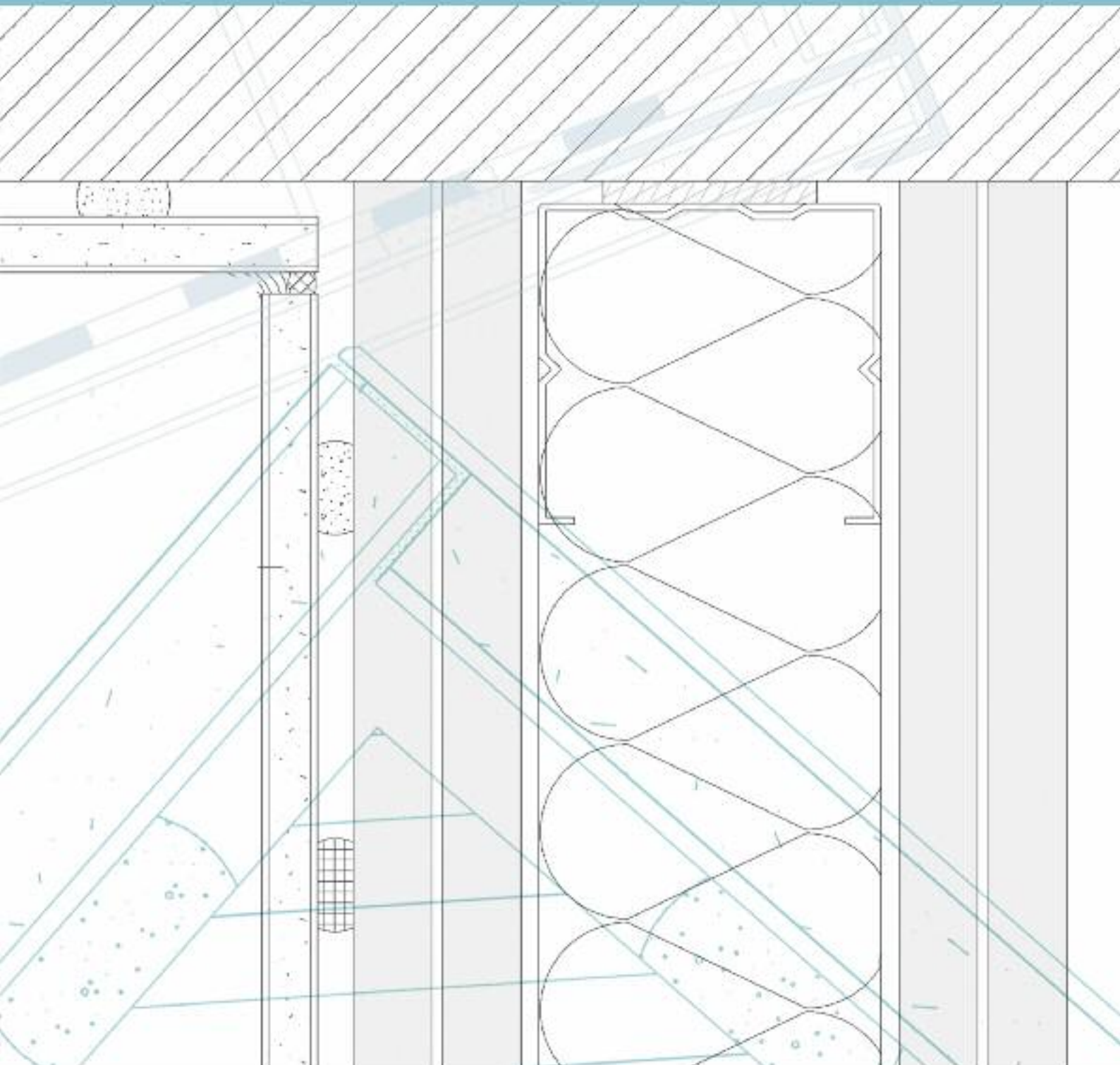


# RESOPAL SpaStyling®

## PROCESSING INSTRUCTIONS



This brochure describes the RESOPAL SpaStyling® products and provides instructions for their processing, handling and use.

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## RESOPAL SpaStyling® New Standards for the Design and Creation of Wet Zones

Water has always been an extraordinary element, long serving as a source of tranquility, relaxation and recovery. Rooms dominated by water require special design to achieve these effects. After all, good bathroom and wet zone design is about more than simply appearance. Quick, simple and cost-effective installation and ease of everyday cleaning and hygiene are top priorities, whether for new construction or renovation.

### Integrated room concept

RESOPAL SpaStyling® offers you the material system to meet these demanding requirements, while allowing ample design freedom and integrated room concepts. The ultra-light RESOPAL SpaStyling® BOARDS have a large surface area, so there are minimal joints on the wall and the finished result is both attractive and hygienic. The RESOPAL SpaStyling® FLOOR is durable and easy to lay. The RESOPAL SpaStyling® SHOWER ELEMENTS are available in the same decor and surface finish as the floor and can be recessed flush with the adjacent area creating perfect conditions for designing barrier-free bathrooms. The RESOPAL SpaStyling® SINK completes the room concept. The washstand can be designed in the same decor and surface finish as the adjacent area and is connected to the sink without visible joint.





### Durable original RESOPAL® Surface

Thanks to its durable RESOPAL®-HPL surface RESOPAL SpaStyling® is resistant to scratching, abrasion, impact, and staining, has a high light resistance and a non-porous surface structure which makes it absolutely hygienic and easy to clean.

### Easy and clean installation – low downtimes

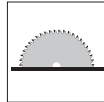
RESOPAL SpaStyling® can be processed and installed in the same way as any wooden material and affixed directly to the wall surface, either in new construction or renovation objects. The quick, simple and clean installation avoids dirt and long downtimes of the rooms.



*Suitable for the use in wet zones*



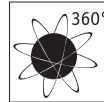
*Quick and easy installation, low downtimes*



*Easily processable like any wooden material*



*Easily processable like any wooden material*



*Integrated Room concept*



*Easy to clean and hygienic*



*Durable surface*



RESOPAL SpaStyling® BOARD



RESOPAL SpaStyling® BOARD

Photo: Dirk Classen, D-Mönchengladbach

## Material description and composition

### 2.1 RESOPAL SpaStyling® BOARD

**RESOPAL SpaStyling® BOARD** is equipped on both sides with decorative high pressure laminates (HPL) of 0.8 mm thickness. RESOPAL®-HPL is intended for the use in interior construction and meets the requirements of the normative "classification and specification of high pressure laminates of a thickness less than 2 mm, intended for adhesive bonding to a carrier material" defined in EN 438-part 3. These laminates are affixed to the 100 % waterproof glass fibre polypropylene composite core material of 6.2 mm thickness with waterproof glue. 40-50 % of the core material consist of glass fibres and 50-60 % of polypropylene. The glass fibre reinforced polypropylene panels are characterized by a high stiffness and toughness whilst having a low surface weight. When applied in wet areas this material maintains its excellent dimensional stability and does not allow rotting or any other decaying processes. **RESOPAL SpaStyling® BOARD** is available as a full-sized board in various dimensions.

### 2.2 RESOPAL SpaStyling® FLOOR

**RESOPAL SpaStyling® FLOOR** is a decorative laminate flooring material made of cellulose fibres coated with thermosetting resins and exposed to high pressure and high temperatures within one single process step. This process generates a synthetic block without any wooden material which guarantees high form stability, resistance to impact, pressure and abrasion as well as high resistance to water and fire. The finished material consists of a compact high pressure block (HPB) which is suitable for floorings in the form of boards that are easy to install and clean. The RESOPAL SpaStyling® FLOOR panel is build of a highly abrasion-proof melamine surface classified AC5 and a central core made of impregnated papers. The size of the panel is 1245 x 200 mm and its thickness 5.4 mm. **RESOPAL SpaStyling® FLOOR** corresponds to utilization class 33 according to EN-685 and is thus suited for heavily used industrial surfaces.

### 2.3 RESOPAL SpaStyling® SHOWER ELEMENTS

To ensure perfect integration into the room concept **RESOPAL SpaStyling® SHOWER ELEMENTS** are available in the same decor and surface finish as the wall and/or floor panels. They consist of RESOPAL®-HPL boards in floor quality and a waterproof layer designed for the use in wet zones with barrier-free showers. Surrounding sealing tapes guarantee the dampness-proof connection to wall and floor. Recessing the elements flush with the floor creates perfect conditions for designing barrier-free bathrooms. An installation above floor level is also possible. **RESOPAL SpaStyling® SHOWER ELEMENTS** are available in various standard dimensions up to a maximum size of 2000 mm x 1200 mm with centred or non-centred drainage or drainage channel and, if necessary, equipped with an anti-slip surface corresponding to class R 10-A.

**RESOPAL SpaStyling® SHOWER ELEMENTS** are available in two different versions:

- a) **RESOPAL SpaStyling® SHOWER ELEMENTS** with integrated gradient of approx. 1,5 % and centred or decentred drain plate for horizontal or vertical drainage.

Centred drainage

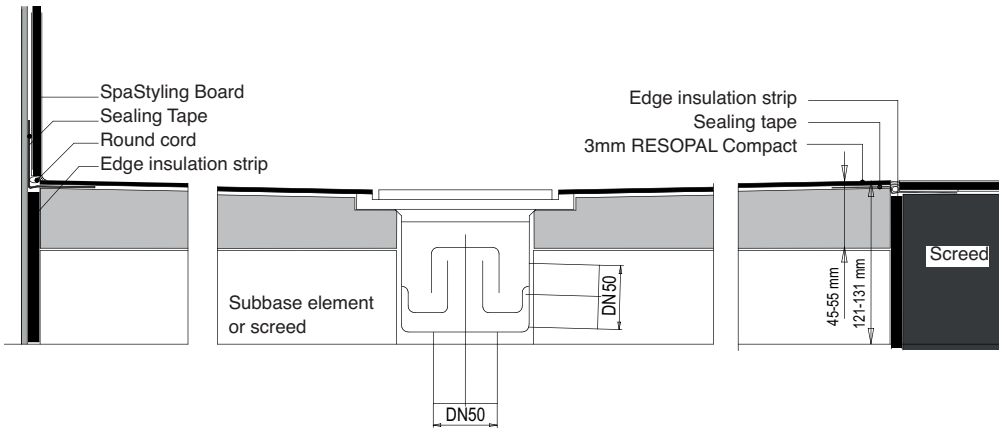


Decentred drainage



*The distance from the middle of the decentred drain plate to the edge of the shower element has to be at least 350 mm.*

Sectional drawing: RESOPAL SpaStyling® SHOWER ELEMENT with centred drainage

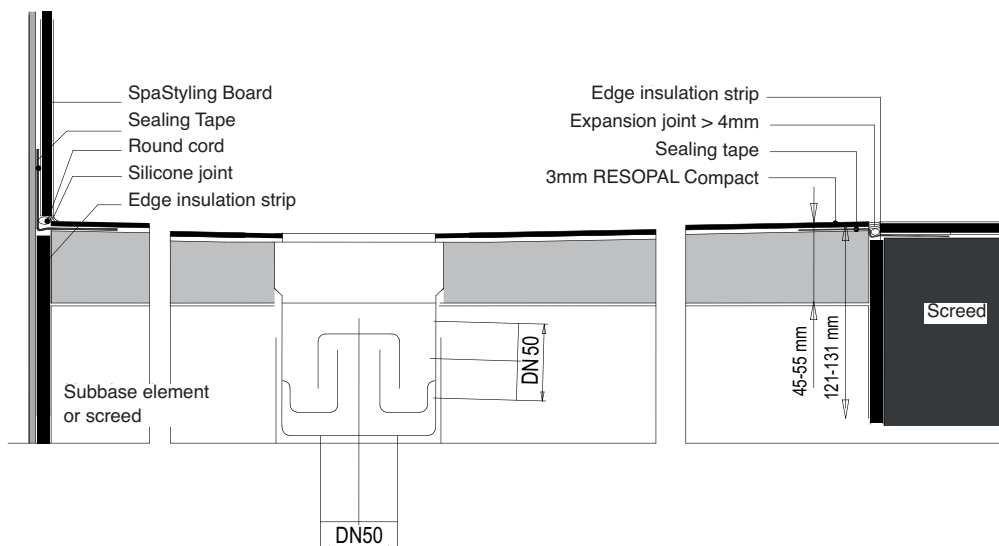


b) RESOPAL SpaStyling® SHOWER ELEMENT with drainage channel

ELEMENT with three-sided integrated gradient of ca. 1,5 % and built-in drain flange for horizontal or vertical drainage



Sectional drawing: RESOPAL SpaStyling® SHOWER ELEMENT with drainage channel



## Material description and composition

### Technical data for RESOPAL SpaStyling® SHOWER ELEMENTS (standard dimensions)

Dimensions: various standard dimensions (customary)

Tolerance:  $\pm 1.0$  mm

special dimensions up to a maximum size of 2000 mm x 1200 mm available on request

Thickness: 45 – 55 mm (depending on size) Tolerance:  $\pm 3,0$  mm

Installation height: 54 – 60 mm (with vertical drainage)  
120 – 124 mm (with horizontal drainage) Flatness: 3.0 mm/1000 mm

Drainage: Horizontal drainage as defined by DIN EN 274: Drainage nozzle DN50

Drainage capacity: 42 l/min (with drain cover in matching decor 60 l/min)

removable trap insert

Vertical drainage as defined by DIN EN 274: Drainage nozzle DN50

Drainage capacity: 60 l/min (with drain cover in matching decor 1.00 l/min)

removable trap insert





#### 2.4 RESOPAL SpaStyling® SINK

**RESOPAL SpaStyling® SINK** is a washstand top with integrated undercounter washbasin, showing a seamless transition between the ceramic and the RESOPAL®-HPL surface. The washstands are manufactured with front apron (postformed round edge). The washstand top consists of a 28 mm P3-P5 supporting chipboard with a waterproof affixed Resopal HPL surface.

**RESOPAL SpaStyling® SINK** is available in the same decor and surface finish as the other **RESOPAL SpaStyling®** products, which allows the realization of integrated design concepts for wet zones. Depending on the length, up to four undercounter washbasins can be integrated in the washstand top.



#### Technical data for für RESOPAL SpaStyling® SINK

Washstand width:	maximum 3000 mm
Washstand depth:	maximum 600 mm
Apron height:	maximal 200 mm
Postforming radius:	10 mm radius
Undercounter washbasin:	Tolerances: $\pm 5.0$ mm in all directions



## 3

### Recommended use

Thanks to their decorative and functional properties **RESOPAL SpaStyling®** products are perfectly suited for the interior construction of wet zones (shower, bathtub, washstand, WC etc.) and living areas. It is recommended to use **RESOPAL SpaStyling®** exclusively in indoor areas with normal room climate (18 to 25 °C/50 up to 65 % relative humidity).

## 4

### Storage and transport

No special precautionary measures are required for storage and transport.

All **RESOPAL SpaStyling®** products (see point 2) have to be stored in a horizontal and flat position on an even and sufficiently large surface (e.g. pallet) in closed storage rooms with normal indoor climate (18 to 25 °C and 50 to 65 % relative air humidity). Additionally, all **RESOPAL SpaStyling®** products have to be protected against staining, humidity and mechanical damage. The top of the **RESOPAL SpaStyling®** BOARD pallet stacks must always be covered and weighted.

All **RESOPAL SpaStyling®** products (see point 2) have to be transported in a horizontal and flat position on an even and sufficiently large surface (e.g. pallet) and must be secured against unintended shifting. Furthermore, all **RESOPAL SpaStyling®** products have to be protected against staining, humidity and mechanical damage during transport.

As none of the **RESOPAL SpaStyling®** products are defined as dangerous goods in the transport regulations, a special labelling is not necessary.

**RESOPAL SpaStyling®** SINK and **RESOPAL SpaStyling®** SHOWER ELEMENTS are delivered in suitable cardboard boxes which can be used for the transport in transporting vehicles. The boxes are sufficiently secured against shifting and impact.

## Machining RESOPAL SpaStyling®

### 5.1 General information

RESOPAL SpaStyling® products can be processed in the same way as customary composite elements consisting of a wooden support and a RESOPAL®-HPL coating on both sides. For this reason, RESOPAL SpaStyling® products can be processed with the usual processing machines used for wooden composites. Also tools with carbide-tipped cutting edges have proved effective when processing RESOPAL SpaStyling® products. Exception: As RESOPAL SpaStyling® FLOOR contains a larger amount of inorganic parts in its modified composition, a higher tool wear can be expected occasionally. When using diamond-coated tools, however, no larger difficulties are likely to appear. As a complement to the general processing instructions for RESOPAL® composite elements, additional recommendations for processing RESOPAL SpaStyling® products are provided in the following. When creating cut-outs and interior recesses in RESOPAL SpaStyling® products, the corners always have to be rounded (illustration). The inner radius should be as large as possible. In cut-outs with more than 250 mm side length the corners must have a minimum radius of 5 mm. In cut-outs with larger dimensions the radius has to be increased in proportion to the side lengths.

Wrong



Right



RESOPAL SpaStyling® BOARD can also be manufactured with RESOPAL®-HPL, Typ P as defined by DIN EN 438, with postforming ability. This provides the option of using these SpaStyling® Boards to create molded parts with soft and jointless roundings (convex and concave). Technical information on processing HPL with postforming ability can be found in the RESOPAL® handbook.

## Machining RESOPAL SpaStyling®

### 5.2 Cutting RESOPAL SpaStyling®

#### Hand-held circular saws

When cutting **RESOPAL SpaStyling® BOARD** with a hand-held circular saw it is recommended to use a guide rail or a stop bar to obtain straight cuts. The board should be cut from the rear to avoid chippings at the visible edge. If hand-held circular saws with diving function are used, the quality of the cut edge can be influenced by adjusting the saw blade projection.

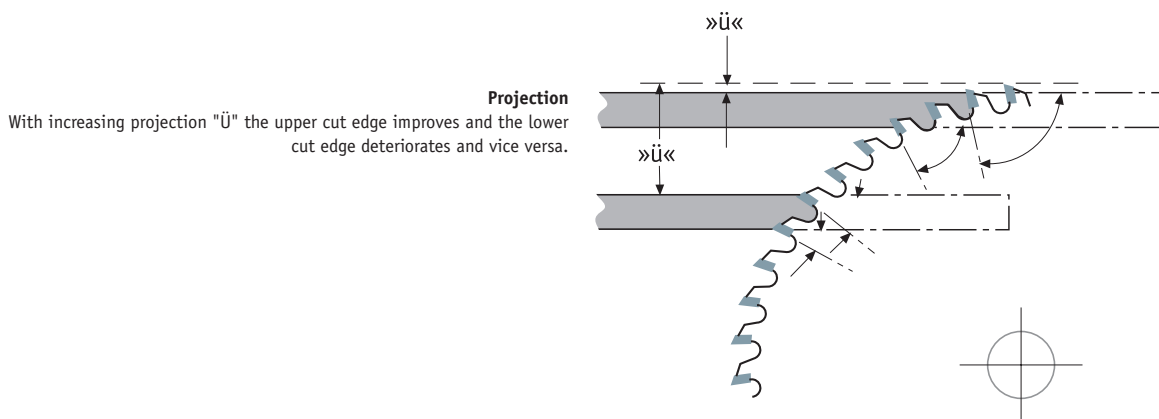
#### Jigsaws

For cutting any kinds of shapes and curves as well as notches and cut-outs in **RESOPAL SpaStyling® BOARDS** a jigsaw is to be used. The quality of the cut edges depends above all on the selection of the saw blade. It is recommended to use carbide-tipped saw blades which are suited for cutting HPL or directly coated boards. Furthermore, the direction of the saw teeth has to be considered. As in most cases the teeth of the saw blades are directed upwards, the cutting should be done from the rear side of the board or a chipping protection should be used. In this way, chippings at the visible edge are avoided. The best cut edges are achieved with special carbide-tipped saw blades developed for sawing abrasive or fibre-reinforced materials and having a longer service life.

To protect the visible decor side against scratches a clean pad (e.g. felt pad) should be used.

#### Panel saws

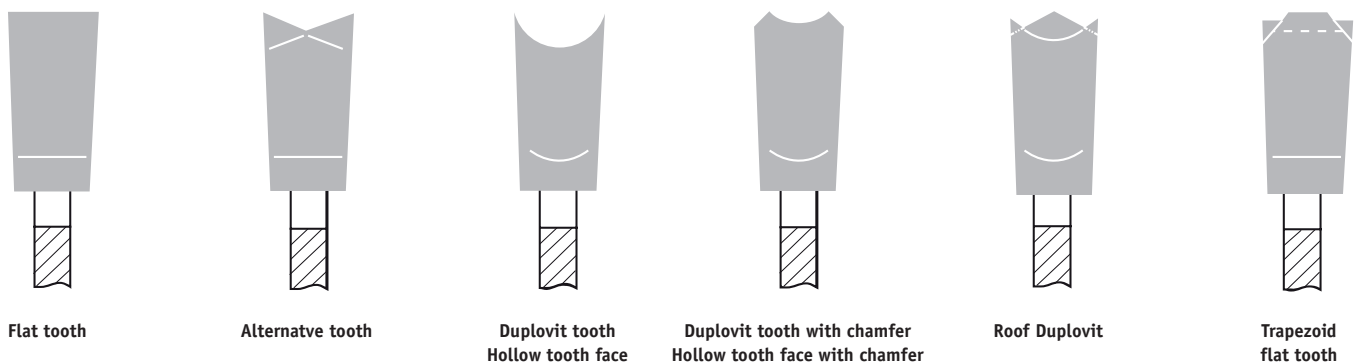
Among other things, the height setting of the saw blade influences the quality of the cut edges. The optimum height depends on the thickness of the **RESOPAL SpaStyling® BOARD** to be cut and the circular saw blade used. The best results are achieved by using a scoring unit.



Other factors that influence the quality of the cut edge are:

- Quality and state of the machine and the circular saw blade
- Shape of the teeth
- Number of teeth
- Cutting speed
- Feed rate

The following tooth shapes are customary:





### 5.3 Drilling of RESOPAL SpaStyling®

The penetration speed of the drill must be adjusted in such a way that the RESOPAL®-HPL is not damaged. The rotation speed of fast steel drills is ca. 0.8 m/s, of carbide drills up to 1.6 m/s. A feed rate of 0.02 to 0.05 mm/U is considered favourable, i.e. within one minute the drill penetrates between 20 mm and 50 mm into the material with 1000 rotations. The usage of a hardwood or laminate support can avoid the bulging of the material at the drill's exit hole. In series production, even better results are achieved by using drilling jigs with drill bushes on both sides which allow a tight clamping of the part to be drilled. The rotation speed should be lowered by half.



#### Spiral drill

For drilling RESOPAL SpaStyling® BOARD special drills for plastic material are suited best. These are spiral drills with an acute angle of about 60° to 80° instead of 120° which is normal for standard metal drills.

In addition, they have a large pitch (steep twist) with a big chip space (wide slots). HS drills (for hand-held machines) and carbide drills (for machines with mechanical feed) are recommended.



#### Cylinder head drill

For drilling holes of larger diameters in RESOPAL SpaStyling® BOARD a cylinder head drill is the tool of choice.



#### Circle cutter/hole cutter

Other tools recommended for drilling large diameter holes are circle cutters or hole cutters with pilot pins.

For drilling even larger holes a so-called adjustable circle cutter with pilot pin should be used. In this case, the hole should be cut from both sides, if possible.

Alternatively, large cut-outs can be created with the router with the help of a template.



## Machining RESOPAL SpaStyling®

### 5.4 Finishing edges of RESOPAL SpaStyling®

#### Manual edge processing with file or sandpaper

The cut edges of **RESOPAL SpaStyling® BOARD** pieces should always be slightly chamfered to make them less sharp-edged. For this processing step fine files or sandpaper (grain size 100 - 150) can be used.

#### Manual edge processing with a hand-held router

Hand-held routers are primarily used to mill protruding edges and HPL edges flush or to create large cut-outs. To protect the surface of the board the router's contact area must be covered with a non-abrasive material. Particles of dirt and chippings have to be removed carefully.

Milling tool diameter: approx. 10 - 25 mm    Rotation speed: 20.000 rpm  
Cutting speed: 10 - 25 m/s

When machining the carrier material, the cutting speed and feed rate have to be adjusted in such a way that the chippings do not fuse.

It is recommended to use single- or double-bladed carbide-tipped milling cutters which are also available with inserts for larger diameters. For a more effective tool utilization height-adjustable milling cutters with axially parallel blades are to be preferred. The edges are chamfered afterwards. The boards should not project more than necessary (2 - 3 mm) to minimize the strain on the tool.

To connect **RESOPAL SpaStyling® BOARDS** by means of groove and loose tongue a groove (3 mm wide, 7 - 10 mm deep) is milled into the narrow edge with the help of a grooving cutter.

Furthermore, for cutting any kinds of shapes and curves, cut-outs and openings in the **RESOPAL SpaStyling® BOARD** a hand-held router and an end milling cutter can be used.

To protect the surface of the board the router's contact area must be covered with a non-abrasive material. Particles of dirt and chippings have to be removed carefully.

#### Machine edge processing

The use of milling and cutter heads with replaceable carbide-blades and inserts has proved effective on spindle moulders. It is customary to use cylindrical tools:

- a) with axially parallel blades
- b) with one-sidedly inclined blades
- c) with two-sidedly inclined blades

When machining the **RESOPAL SpaStyling® BOARD** carrier material the cutting speed and feed rate have to be adjusted in such a way that the chippings do not fuse (approx. 3.000 - 6.000 rpm; or 15 - 30 m/s). The tool lives may vary significantly depending on the type and form of tool, the required cutting quality and the carrier material. For large-scale processings and the processing of **RESOPAL SpaStyling® FLOOR** it is recommendable to use tools with diamond-tipped blades.

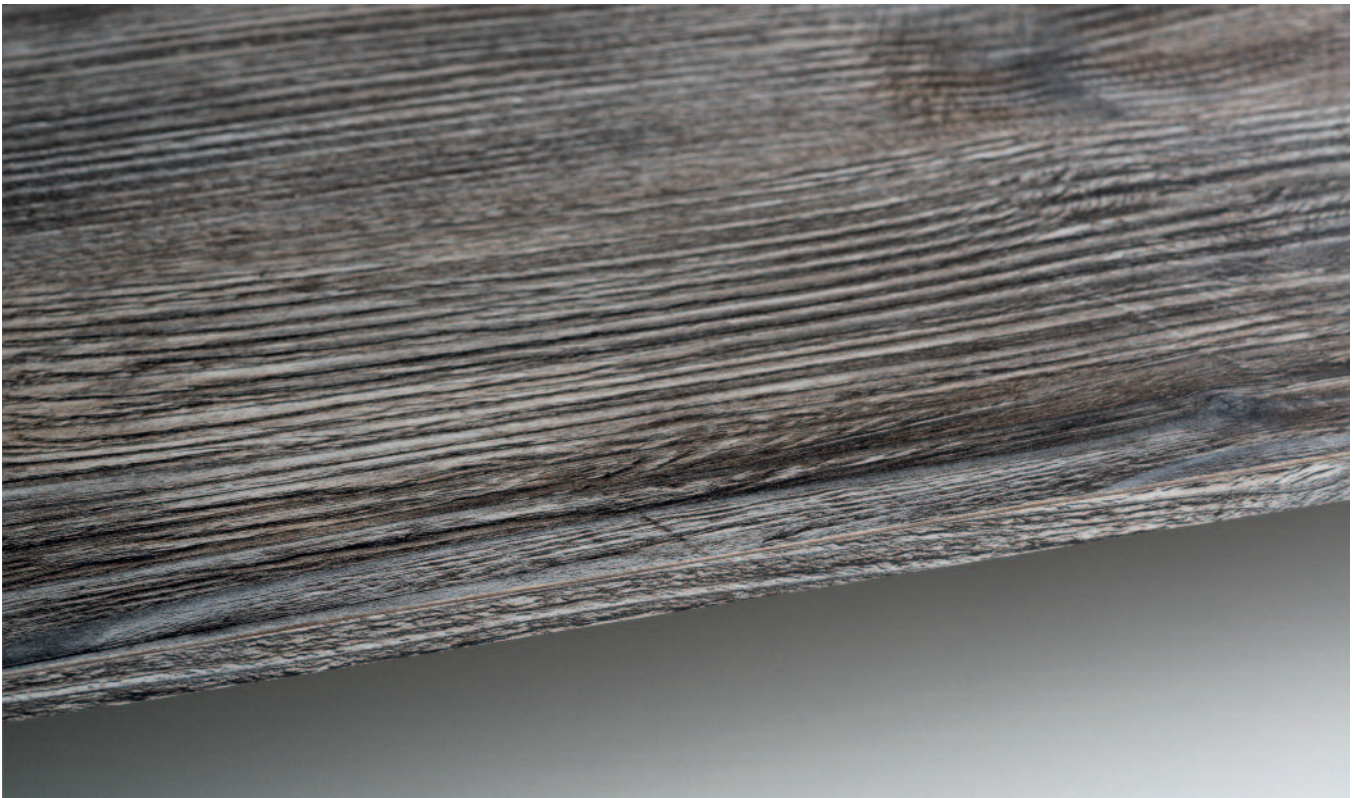
### Edge coating (narrow surface coating)

The narrow surfaces of **RESOPAL SpaStyling® BOARD** can be coated either manually or using a machine (edge banding machine). The selection of the edge type (HPL, PP, ABS, melamine resin or aluminium angles) depends on the application purpose, the internal working methods and the existing machine equipment. Before processing, the edge strips and the carrier material have to be stored at 18 to 25 °C and 50 to 65 % relative air humidity.

For bonding and gluing the market offers specific adhesives that are used in the furniture industry and the crafts sector. In this context, the processing guidelines of the adhesive manufacturers have to be observed and further inquiries at the manufacturers of both the edges and the adhesives may become necessary. A prior test bonding is always recommendable.

### Edge coating (narrow surface coating) manually

The narrow surface of **RESOPAL SpaStyling® BOARD** can be coated manually in the same way as a customary composite element consisting of a wooden support and a both-sided **RESOPAL®**-HPL coating. Melamine resin edges, for example, can be ironed onto the surface with the help of a hot-melt adhesive (though the use of a flat iron is not recommendable with direct water contact) and HPL edge strips can be affixed by using pneumatic or mechanic clamping devices and D4-PVAC- or PUR-adhesives. In addition, customary wall ending profiles or aluminium angles can be used for coating narrow surfaces. They can be affixed with the help of a PUR- or a MS-Polymer-adhesive.



**RESOPAL SpaStyling® BOARD** with HPL edge

### Edge coating (narrow surface coating) with machines

For coating narrow surfaces of **RESOPAL SpaStyling® BOARD** with edge banding machines the use of hot-melt adhesives (reactive hot melts on the basis of polyurethane) are recommended. The use of a primer on the narrow surface of **RESOPAL SpaStyling® BOARD** is not necessary.

The quality of the adhesive bonding is significantly influenced by the following factors:

- Selection of the adhesive system and the machine system
- Feed rate of the edge banding machine
- Roller pressure

The guidelines and processing instructions provided by the manufactures of both the machine and the adhesive are to be observed.



## General information on waterproofing (sealed plane)

### 6.1 General information

"(...) According to the building regulations valid in the respective states, buildings and building parts have to be constructed in such a way that water, humidity (...) and other chemical, physical or biological influences do not cause dangers or any intolerable inconvenience.

For this reason, structural works that are particularly exposed to humidity, e.g. bathrooms, showers, terraces, balconies, industrial kitchens etc., have to be protected against moisture penetration. Not included are living and service rooms in residential buildings, such as:

- guest toilets,
- utility rooms,
- domestic kitchens,

unless there are floor drains in these rooms."\*

Wall and floor areas subject to the effects of humidity can be covered with wall coverings (e.g. tiles, glass, **RESOPAL SpaStyling® BO-ARDS**). Although the wall coverings are resistant to moisture and water, the existence of joints and connections in surfaces that are directly exposed to moisture makes it necessary to place an additional sealing beneath the wall covering.

This chapter of the processing brochure deals with the processing of liquid bonded waterproofing products in combination with RESOPAL SpaStyling® BOARD in indoor areas in consideration of defined stress classes and surfaces.

The information on composite sealing provided in this text is not supposed to be exhaustive, but is meant as an introduction to the issue of waterproofing. For more detailed information, please, refer to the information sheet "Bonded waterproofing – Instructions for the installation of liquid bonded sealings in conjunction with tile or board claddings and coverings for indoor and outdoor application" issued by the Central Association of the German Construction Industry (ZDB).

### 6.2 Moisture stress classes

Depending on the level of moisture stress on the surfaces it is to be distinguished between sealings for moderate moisture stress (0/A0) (mostly private areas) not regulated by the building supervision authorities and sealings for high moisture stress (A/B/C) (public areas) regulated by the building supervision authorities.

#### Moisture stress classes valid for low to moderate stress (not regulated by building supervision authorities)

Stress class	Stress class	Application examples
0	Wall and floor areas occasionally and only shortly exposed to low stress caused by splash water.	<ul style="list-style-type: none"> <li>• guest toilets (without shower and bathtub)</li> <li>• utility rooms</li> <li>• domestic kitchens</li> <li>• walls in the region of sanitary objects, e.g. washbasins and wall-hung WCs</li> </ul>
A01	Wall areas only occasionally and moderately exposed to low stress caused by splash water.	in bathrooms with domestic use in the areas immediately exposed to splash water from showers and bathtubs
A02	Floor areas occasionally and only shortly exposed to moderate stress caused by splash water.	in bathrooms with domestic use with and without orderly used floor drainage, e.g. barrier-free showers.

*The applications highlighted in green colour can be realized with RESOPAL SpaStyling® BOARD.*

### Feuchtigkeitsbeanspruchungsklassen bei hoher Beanspruchung (bauaufsichtlich geregelter Bereich)

Stress class	Stress class	Application examples
A1	Wall areas exposed to high moisture stress caused by process and cleaning water.	Walls in public showers
A2	Floor areas exposed to high moisture stress caused by process and cleaning water.	Floors in public showers, floor areas surrounding swimming pools
B	Wall and floor areas in indoor and outdoor swimming pools (with water pressing from the inside).	Wall and floor areas in swimming pools
C	Wall and floor areas highly stressed by exposure to water in conjunction with chemical substances.	Wall and floor areas in rooms exposed to limited chemical stress (with the exception of areas subject to the Water Resources Act [sec. 19 WHG]).

The applications highlighted in green colour can be realized with **RESOPAL SpaStyling® BOARD**.

## 6.3 Installation of waterproofing solutions

### Requirements on sealing material

For bonded waterproofing in areas regulated by the building supervision authorities a general test certificate (AbP) issued by an approved test institute is mandatory as a usability proof. As a rule, no general test certificates (AbP) are issued for areas not regulated by the building supervision authorities. It is recommendable, however, to use AbP-certified products even for the stress classes A0 and B0. (Suppliers of waterproofing material: see chapter 12)

### Requirements on the surface

The following surface properties are recommended in the information sheet "Bonded waterproofing – Instructions for the installation of liquid bonded sealings in conjunction with tile or board claddings and coverings for indoor and outdoor application" issued by the Central Association of the German Construction Industry (ZDB): "The surface has to be sufficiently even, stable and free of continuous cracks. It must have a basically uniform, regular type-specific quality and sufficient stability. It must be free of substances impairing the adhesive properties of the sealing (e.g. release agents, loose parts, dust, sand, binding agent accumulations, efflorescence, staining)".

The dimensions and position of the surface should accurately match the finished cladding area. Larger inaccuracies have to be compensated prior to the installation of the sealing. A surface's evenness is judged according to DIN 18202.

The material used for compensating inaccuracies has to be compatible with the surface and the sealing material and adhere well on the surface. Moisture-sensitive surfaces, such as calcium sulphate-bound screeds or pre-finished screeds made of gypsum boards or gypsum fibreboards with floor drainage as well as wood and wooden composites are not suitable as surfaces for this kind of waterproofing. The surface is allowed to deform only moderately after application of the sealing material. On surfaces that shrink and creep the waterproofing and cladding material has to be applied as late as possible. As a rule, the waterproofing and coating or cladding material should be applied only about six months after installation when it comes to concrete surfaces as defined by DIN 1045 and walls built with stones bound by a binding agent as defined by DIN 1053. With surfaces not likely to undergo further deformations the period may be shorter.

Cracks in surfaces have to be restricted to a crack width change of not more than 0.2 mm, unless the respective proof has been provided that the sealing product allows the bridging of larger cracks. The constructive measures have to ensure that the maximum change of the crack width is not exceeded. Plaster, gypsum boards and gypsum fibreboards as well as screeds have to be dry and concrete screeds have to be not younger than 28 days. The moisture content of screeds applied on separating and insulating layers has to be determined with the help of a CM device.

The following values are to be observed:

- for heated calcium sulphate-bound screeds not more than 0.3 CM %
- for unheated calcium sulphate-bound screeds not more than 0.5 CM %
- for concrete screed not more than 2.0 CM %
- for rapid screeds according to manufacturer specification

## General information on waterproofing (sealed plane)

### Processing of bonded waterproofing material

When processing the sealing material, the processing instructions of the respective manufacturer should always be observed!

The bonded waterproofing material is applied on the surface by painting, rolling or spreading with a palette knife and can be reinforced by interlayers consisting of fleece, fabric or foil. The material has to be applied evenly and without omissions and in accordance with the required minimum thickness.

In the following, the individual work steps are illustrated:

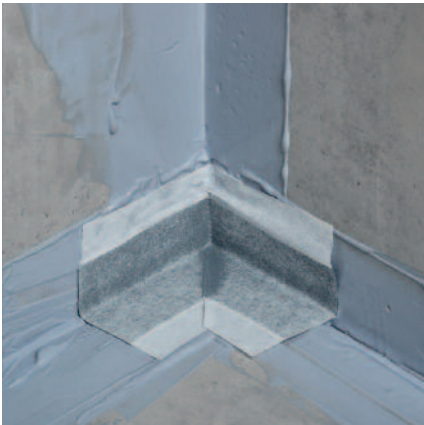
#### 1st Step:

Check the surface (p. 15)



#### 2nd Step:

Apply the primer on the full surface  
(adhesive and protective primer)



#### 3rd Step:

Connections to adjacent construction parts and penetrations require special care during the application of the sealing material.

In these cases, sealing tapes and sealing collars are used.



Embed the sealing tapes for the inner and outer corners into the still moist sealing foil and immediately paint them over again.





Embed sealing collars for pipe openings into the still moist sealing foil and immediately paint them over again.

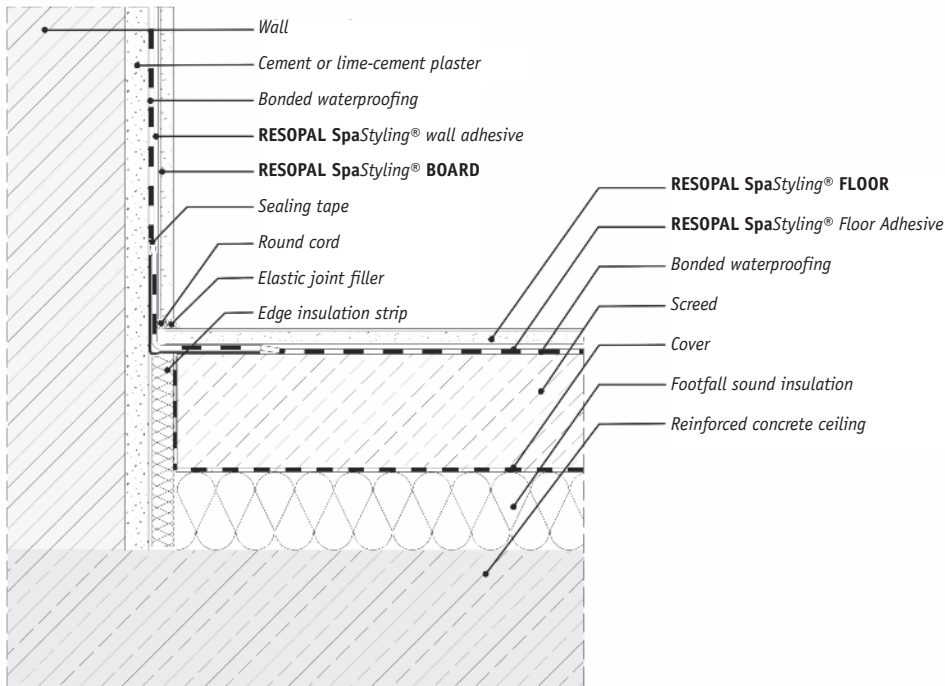


**4th Step:**

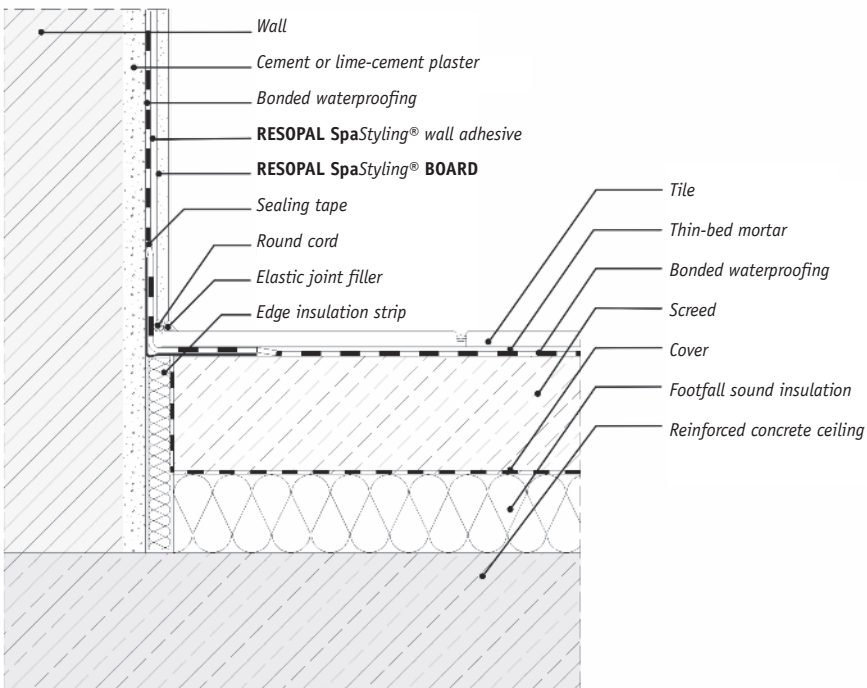
Apply the sealing foil generously and evenly in two layers (second layer only after the time interval recommended by the manufacturer)

## General information on waterproofing (sealed plane)

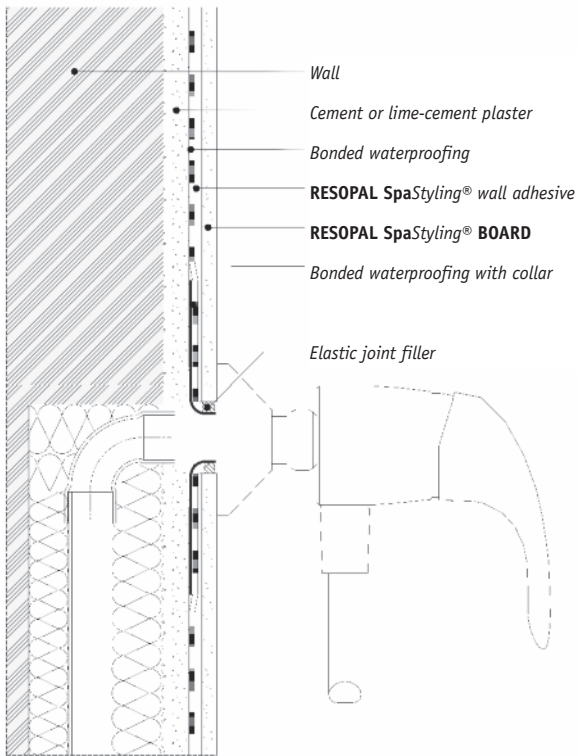
### Details of bonded waterproofing solutions



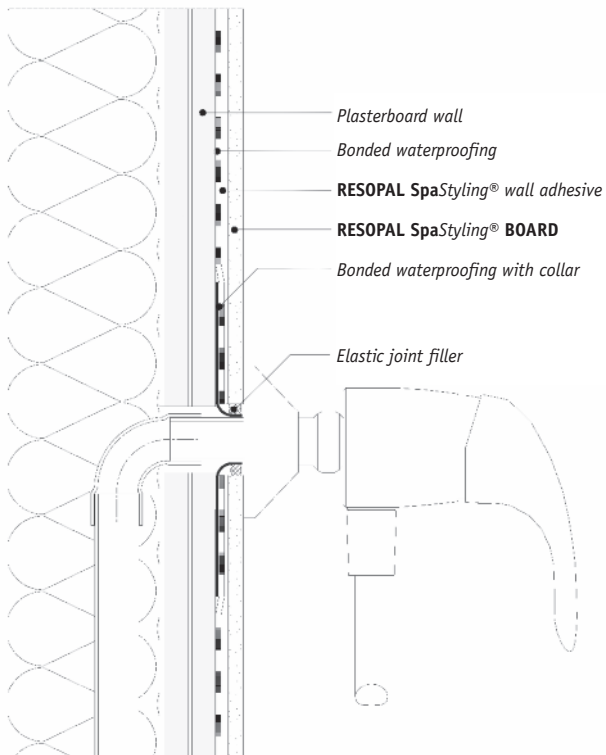
Wall-floor connection with **RESOPAL SpaStyling® BOARD** and **RESOPAL SpaStyling® FLOOR**



Wall-floor connection with **RESOPAL SpaStyling® BOARD** and tile

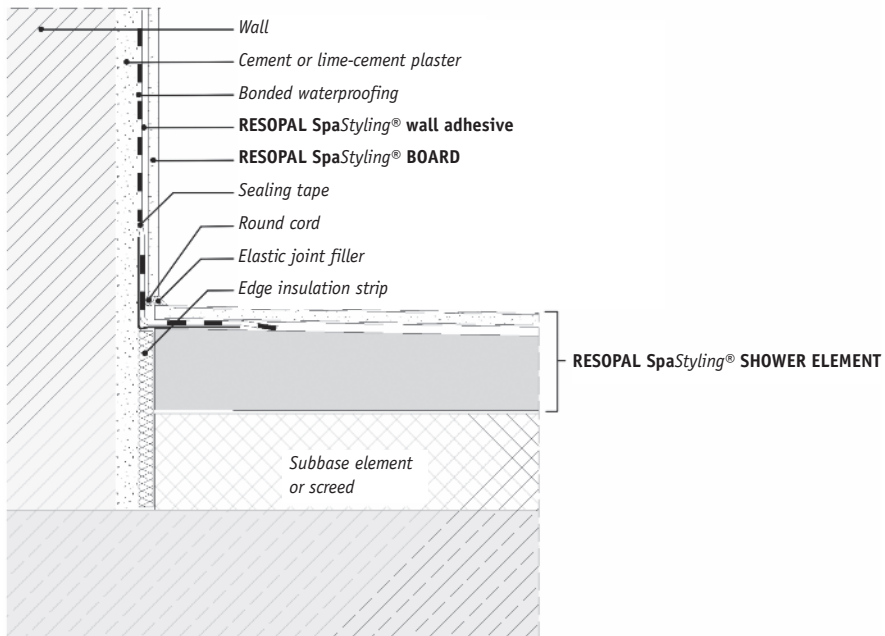


Penetration (wall)

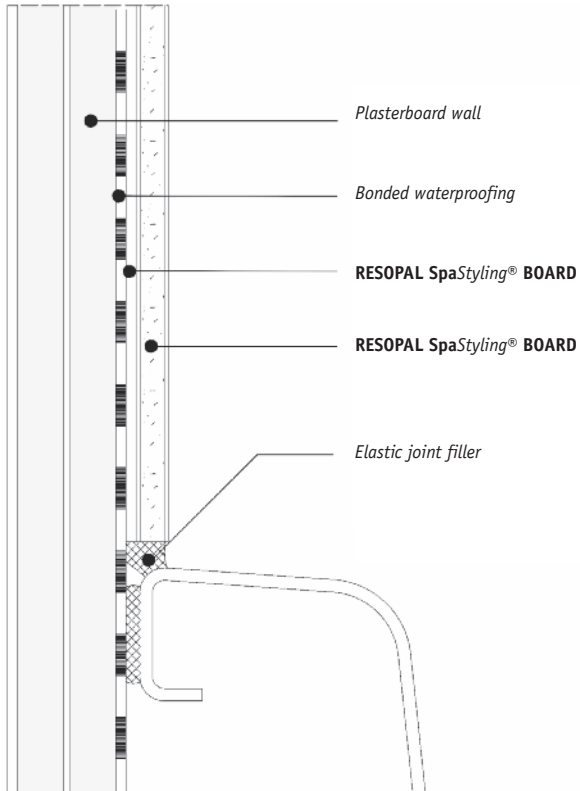


Penetration (drywall)

## General information on waterproofing (sealed plane)



Wall connection (RESOPAL SpaStyling® BOARD) with RESOPAL Styling® SHOWER ELEMENTS



Wall connection (RESOPAL SpaStyling® BOARD) with shower and bathtub



## General Information on Slip Resistance

### 7.1 Slip resistance and good grip

When it comes to anti-slip surfaces in public areas, a distinction is made between surfaces that are used **bare-footed** and those walked on **with shoes**. Up to now, no such regulations have been issued for privately used areas, e.g. bath rooms or kitchens.

### 7.2 Floorings in work rooms and work areas with an increased risk of slipping

<b>Scope:</b>	Floorings in work rooms and work areas with an increased risk of slipping
<b>Regulations:</b>	General Accident Prevention Regulations (UVV) Information sheet "Floorings in work rooms and work areas with an increased risk of slipping", BGR 181
<b>Test method:</b>	DIN 51130 – Testing of floor surfaces; Determination of the slip-resistant properties; Work rooms and work areas with increased risk of slipping.
<b>Classification:</b>	Class R9 to R13 (high requirements)
<b>Application examples:</b>	
Group R9:	Entrance areas (indoor); Break rooms; Dining areas; Canteens; Sickrooms incl. corridor; Surgeries; Pharmacies; Hairdresser's shops; Classrooms in schools and kindergartens; Banks
Group R10:	Toilets, changing rooms and wash rooms; Coffee and tea kitchens, ward kitchens; Sanitary rooms, ward bathrooms; Toilets, wash rooms and kitchens in schools and kindergartens

#### Klassifizierung der RESOPAL SpaStyling® surfaces for work rooms and work areas with increased risk of slipping

Texture FN (Fine Line)	R10-A
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### 7.3 Floorings for wet barefoot areas

<b>Scope:</b>	Barefoot areas in swimming pools and pre-cleaning areas in sports facilities
<b>Regulations:</b>	Information sheet "Floorings for wet barefoot areas", GUV-I 8527
<b>Test method:</b>	DIN 51097 – Testing of floor surfaces Determination of the slip-resistant properties Wet barefoot areas
<b>Classification:</b>	Class A to C (high requirements)
<b>Anwendungsbeispiele:</b>	
	Group A: Barefoot passages (mostly dry); Single and collective changing rooms; Sauna and relax areas (mostly dry)
	Group B: Barefoot passages, if not included in group A; Shower rooms; Pool surrounds; Sauna and relax areas, if not included in group A
	Group C: Stairs leading into the water, if not included in B; walk-through pools, inclined pool edge constructions

#### Classification RESOPAL SpaStyling® textures for wet barefoot areas

Texture FN (Fine Line)	A
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## Processing instructions RESOPAL SpaStyling®

### 8.1 Installation of RESOPAL SpaStyling® FLOOR

#### General information

**RESOPAL SpaStyling® FLOOR** must always be stored dry. (see also point 4 Storage and Transport). The protective foil does not substitute a dry storage place and does not provide a long-term protection against water. For acclimatization the panels have to be stored on an even surface for at least two days (in winter approx. three to four days) in the room to be floored under the following climate conditions. The room climate should be normal (temperature 18 to 25 °C; relative air humidity 50 to 65 %) and the temperature of the floor should range between 15 °C and a maximum of 25 °C. These climate conditions should continue to prevail during later use of the rooms.

The flooring material has to be checked for faults and colour deviations before installation, as later complaints cannot be accepted once the material has been cut or installed.

The installation of **RESOPAL SpaStyling® FLOOR** is subject to the relevant national standards (e.g. DIN 18365 Flooring works) and guidelines, the instructions for processing **RESOPAL SpaStyling® FLOOR** and the acknowledged rules of the trade.

#### Installation on floors with underfloor heating

If SpaStyling Floor is supposed to be installed on underfloor heated areas (warm water), a number of requirements and further parameters have to be considered.

In accordance with the recent review of the UNE 56810 standard regarding the installation of laminate and wooden floorings the guidelines for the installation on underfloor heated surfaces have changed with regard to the water-pipe system. These guidelines apply to all products that are used for the installation of parquet with the help of adhesives. If you intend to lay this material on underfloor heated areas, you have to make sure that the surface is plane and dry before you affix the panel with an adhesive. The reason for the revision of the standard is that "by this method the system's proper heat absorption and release is guaranteed in the best possible way." Furthermore, the standard says that, as of a floor temperature of 18 °C, the heating temperature is allowed to be increased only step by step (5 °C per day). In addition, it must be ensured that the relative air humidity in the installation area is not too low when the underfloor heating is being used. With an ambient temperature of 18-22 °C the relative air humidity must not drop below 50 %. Our synthetic **RESOPAL SpaStyling® FLOOR** panels are affixed with the **RESOPAL SpaStyling® Floor adhesive**. The adhesive has to be spread on the full surface of the panel with the help of a notched trowel. RESOPAL® does not consider any complaints or other claims, if above mentioned instructions for this kind of installation should not have been properly observed. In wet rooms an additional bonded sealing according to DIN 18195 has to be applied before affixing the panels.

The surface temperature of **RESOPAL SpaStyling® FLOOR** must not exceed 26 °C when the room is heated. Floor surface temperatures of more than 26 °C can cause permanent damage to the panel.

To protect **RESOPAL SpaStyling® FLOOR** against scratches the legs of chairs, furniture etc should be covered by felt gliders. Office chair wheels must have a soft standard-conforming surface.

#### Subfloor

**RESOPAL SpaStyling® FLOOR** can be installed floating in dry rooms on any kind of screeds, on existing wood, board and chipboard floorings, on PVC floors, synthetic and linoleum floorings, on stone, ceramic and marble floors. Before installation the surface has to be thoroughly cleaned. The subfloor has to be clean, stable and plane (max. ± 2 mm height difference over the length of 2m) following the acknowledged rules of the trade and corresponding to the state of art.

Textile floor coverings have to be removed before installation for technical and hygienic reasons!

On mineral subfloors (not on wooden subfloors) an additional vapour barrier consisting of a PE foil of at least 0.2 mm thickness (or a technically equivalent material) has to be placed before laying the floor. In the joint areas the foil must overlap by at least 20 cm. The residual moisture content of cement screeds must not exceed 2.0 %, that of anhydrite screeds 0.5%. The residual moisture content is measured with the help of a CM device (the creation of a measurement report is recommendable).

When laying floors in rooms without sufficient moisture barrier (e.g. rooms without basement, passageways etc.), a standard or state-of-the-art moisture barrier has to be installed.

The vapour retarder or barrier is always placed below the intermediate layer or the footfall sound insulation. Afterwards the recommended sublayer material is applied. Insulation layers have a decisive influence on the living comfort and the room acoustics.

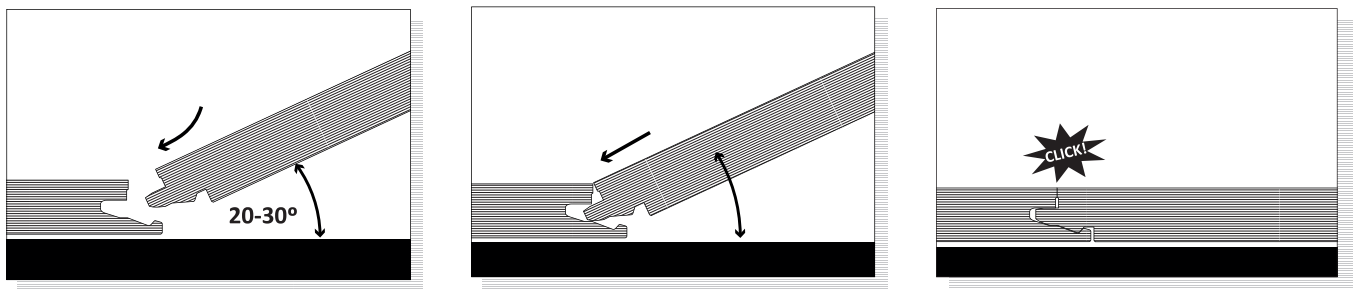
### Installation of RESOPAL SpaStyling® FLOOR

RESOPAL SpaStyling® FLOOR is suited for full-surface adhesive bonding in wet zones and for floating installation in dry areas.

As a rule, the RESOPAL SpaStyling® FLOOR panel is laid parallel to the main light source. The maximum permitted dimension of a coherent area is 5 x 4 m (length x width) in wet areas, and 10 x 10 m in dry areas, i.e. a maximum of 20 m<sup>2</sup> and 100 m<sup>2</sup> respectively. Normally, areas larger than 20 m<sup>2</sup> or 100 m<sup>2</sup> have to be separated by an expansion joint. Make sure to keep edge distances of at least 6 mm (distance blocks) to fixed objects and walls (do not fill with foam or sealing material).

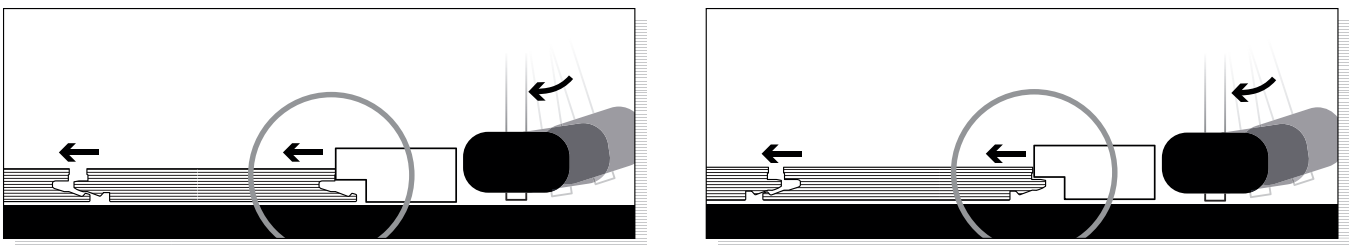
To produce as little waste as possible, it is recommended to measure the area to be floored and create an installation pattern in advance on the basis of the material sizes. During this step it has to be considered that a joint offset of at least 30 cm has to be maintained and that the panel width of the first and the last row must not be smaller than 50 mm.

#### Option 1



This is the easiest and most frequently applied installation method. And in most cases it also the best one. The panel is placed on the floor in an angle of 20° to 30° to the previously laid panel. Moving it upwards and downwards and simultaneously pushing it forward you create a fixed connection between tongue and groove.

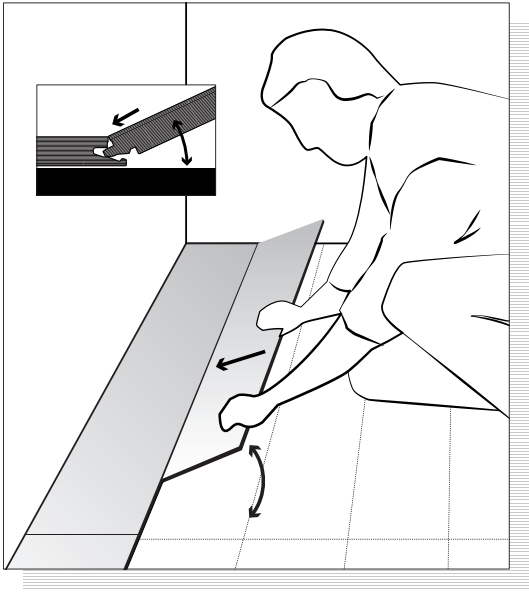
#### Option 2



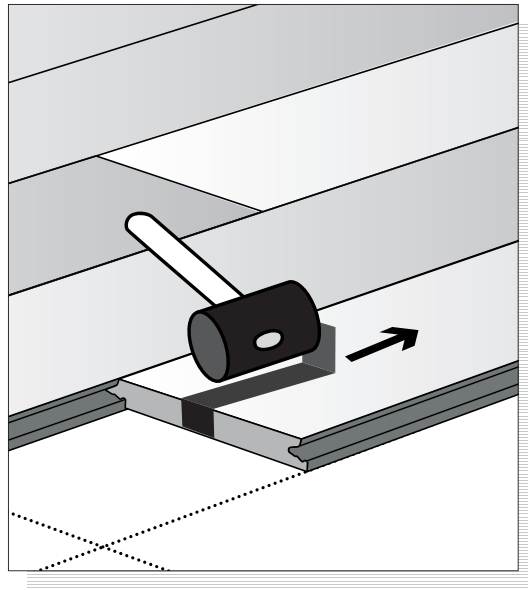
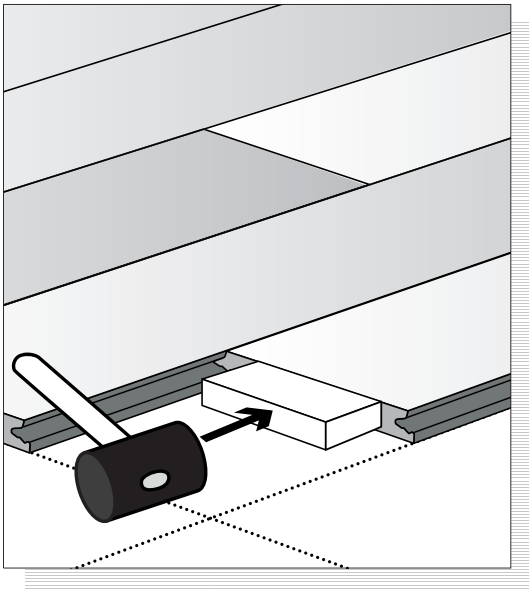
This option allows to connect the panels without lifting them or moving them in a certain angle. This method is recommended, if an installation according to option 1 is not possible without restrictions.

Hammer the panels into place little by little and shift them horizontally. In this way, tongue and groove will connect firmly. Make sure to use a suitable tool to avoid damages to the material.

## Processing instructions for RESOPAL SpaStyling®

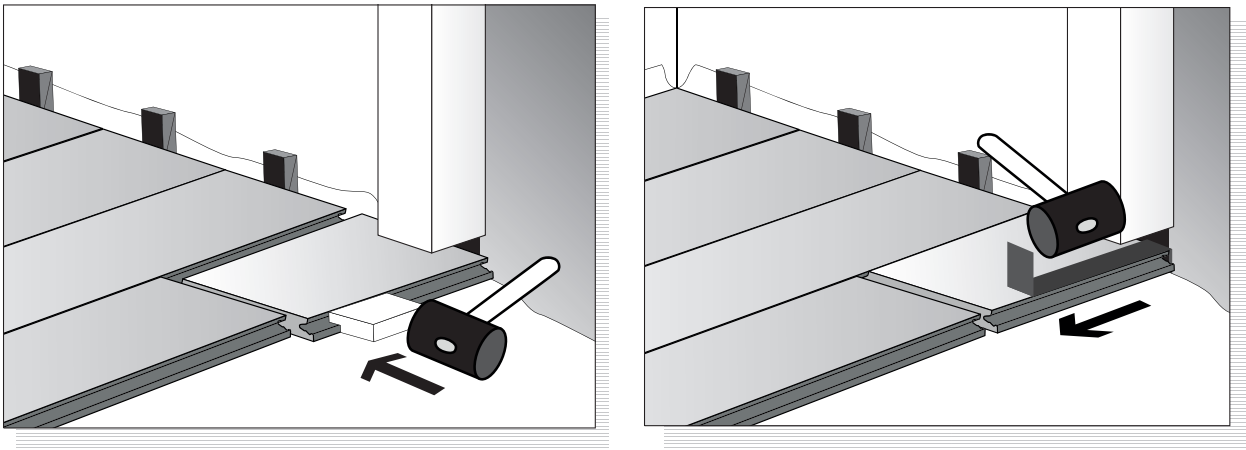


Now fix the second panel of the first row with the short edge according to "Option 1". Make sure to cut the tongues off the panels that will face the wall.

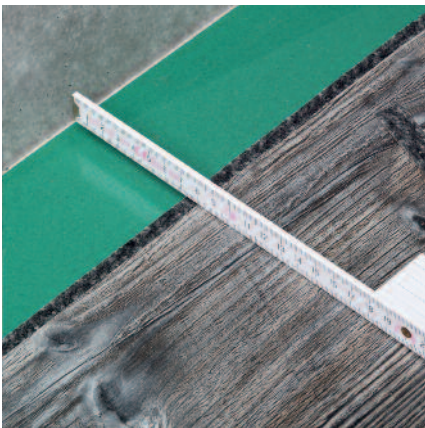


As soon as you have completed the first row, start the second row by fixing the long edges. After installation of the second panel use an appropriate hammer to let the short edges click into place according to "Option 2".



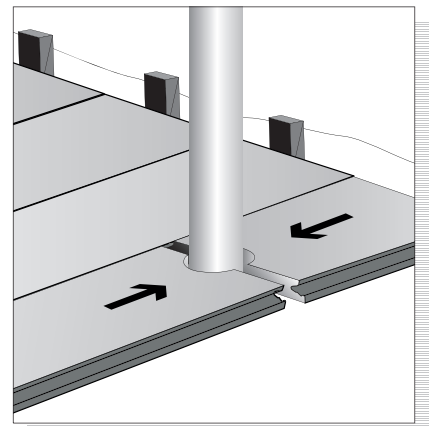
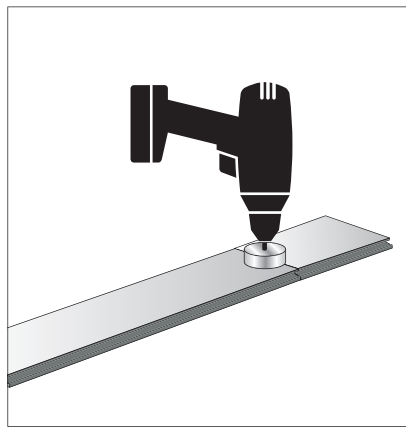
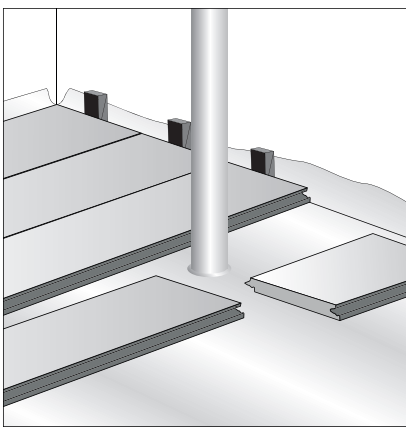


oor frame: Saw the panel to the right size and leave an expansion joint. If the up and down movement according to "Option 1" is not possible, use the hammering method according to "Option 2".



Continue to lay row after row using above mentioned methods.

Cut the panels of the last row (minimum width 50 mm) to the desired width and install them in the same way (minimum wall distance 6 mm).



Pipes: If there are pipes to be surrounded, make sure that they are situated always precisely between two panels. Drill a hole with a diameter matching the pipe plus an additional 20 mm.

## Processing instructions for RESOPAL SpaStyling®

### Installation of RESOPAL SpaStyling® FLOOR in wet zones and on underfloor heated areas (full-surface adhesive bonding)

Supplementing the instructions on floating installation (p. 23), this point provides instructions on the installation of RESOPAL SpaStyling® FLOOR by the method of full-surface adhesive bonding. If not mentioned otherwise, the descriptions under the earlier point also apply to this method.

Laminate floors like RESOPAL SpaStyling® FLOOR tend to show open joints when the room air humidity is too low (RESOPAL®-HPL dries out).

The forming of joints cannot be prevented by the full-surface bonding method. For this reason, it is absolutely essential to make sure that the room air humidity does not fall below 50 to 65 % at a temperature of 18 to 25 °C.

RESOPAL SpaStyling® FLOOR can be directly affixed to the screed or the tiled floor in wet rooms, either in new construction or renovation objects. For all applications the surface has to be ready for laying as described under point 8.1 (Subfloor, p. 22), i.e. it has to be stable, plane, solid, clean, dry, free of dust, oil and grease. The room temperature should be up to ~20 °C. The processing instructions of the adhesive manufacturer should be observed.

Surfaces which have been sealed with a bonded waterproofing product beforehand do not require further preparatory treatment – in this case, make sure that the sealing material is compatible with the adhesive. Loose and absorbent surfaces not requiring bonded waterproofing have to be solidified by applying a primer/undercoat.

The maximum permitted dimension of a coherent area is 5 m x 4 m (length x width), i.e. not more than 20 m<sup>2</sup>. As a rule, areas larger than 20 m<sup>2</sup> have to be separated by an expansion joint.

RESOPAL SpaStyling® FLOOR panels are always affixed by full-surface adhesive bonding. For the installation on different types of surfaces (cement screed and gypsum fibre boards, tiles etc.) use the specific RESOPAL SpaStyling® floor adhesive (see data sheet). Clean the floor panel with ethanol or acetone before affixing it. Apply the adhesive evenly on the surface in panel width with the help of a TKB notched trowel B3-B5 (depending on the type of surface). Then place the panel into the adhesive bed within the skin formation time of approx. 60 minutes (temperature ~20 °C and relative air humidity ~50 %).

### Finishing works

After installation of the floor panels remove all distance blocks along the walls. Use suitable wall edging strips to cover the surrounding expansion joint. Seal pipe openings with collars or a suitable round cord and joint sealant. When installing wall edging strips, transition and end profiles make sure not to fix them to the flooring. Furthermore, all connections to fixed construction parts and walls have to be waterproofed to prevent water from penetrating underneath the panels.

## 8.2 Installation of RESOPAL SpaStyling® BOARD

### General Information

In order to acclimatize before installation the panels have to be stored on an even surface for at least two days (in winter approx. three to four days) in the respective room under the following climate conditions. The room climate should be normal (temperature 18 to 25 °C; relative air humidity 50 to 65 %). These climate conditions should continue to prevail during later use of the rooms.

The installation of **RESOPAL SpaStyling® BOARD** is subject to the relevant national standards and guidelines, the instructions for processing **RESOPAL SpaStyling® BOARD** and the acknowledged rules of the trade.

When it comes to adhesive bonding of **RESOPAL SpaStyling® BOARDS** on walls, make sure that the sides of the boards where the adhesive is supposed to be applied on are clean, dry and free of dust, oil and grease. Further preparatory treatment depends on the respective adhesive system. Therefore always observe the processing instructions of the adhesive manufacturer.

### Wall surface

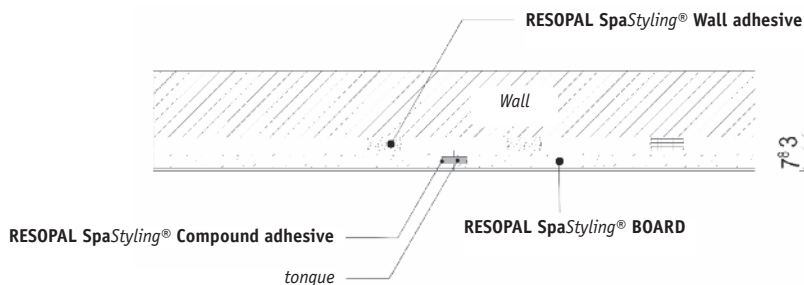
**RESOPAL SpaStyling® BOARDS** can be affixed to various types of plaster (gypsum and cement plaster), on drywall surfaces (gypsum boards or gypsum fibreboards), on various wooden materials (chipboards, OSB boards etc. – **NOTE:** Wooden materials are not permitted as surfaces for bonded waterproofing) and on existing stone and ceramic surfaces, either by full-surface or strip-wise bonding.

The wall surface must be dry, clean, stable and plane (max.  $\pm 2$  mm height difference over the length of 2 m) following the acknowledged rules of the trade and corresponding to the state of art.

Surfaces which have been sealed with a bonded waterproofing product beforehand do not require further preparatory treatment – in this case, make sure that the sealing material is compatible with the adhesive. Loose and absorbent surfaces not requiring bonded waterproofing have to be solidified by applying a primer/undercoat.

### Installation of RESOPAL SpaStyling® BOARD

**RESOPAL SpaStyling® BOARDS** are supplied as large-format elements in various dimensions. The required panel formats are cut out of these elements. If the boards are supposed to be used in full format, a surrounding edge trimming of at least 20 mm is recommended. If larger coherent areas are to be covered, the **RESOPAL SpaStyling® BOARD** elements can be connected by groove and loose tongue, with only a hair joint remaining between the individual boards.



## Processing instructions for RESOPAL SpaStyling®

For this purpose, a groove has to be cut at the narrow panel surface (3 mm wide, 7 to 10 mm deep) and particles of dirt and chippings have to be carefully removed afterwards.

To ensure that the connection will later be waterproof it has to be bonded with **RESOPAL SpaStyling® Wall adhesive**. For this purpose, the adhesive is inserted into each groove (on the groove cheeks) of the two boards to be connected. Make sure to dose the adhesive in the grooves precisely and to leave enough room for the tongue, so that the adhesive or the tongue does not obstruct the connection of the panels. Insert the tongue into the groove of one of the boards. Before finally connecting the boards apply some additional adhesive on the tongue to ensure the joint's later waterproofness. Adhesive material oozing out or adhesive residue on the surface have to be removed immediately.



Prior to the installation of **RESOPAL SpaStyling® BOARDS** on the wall surface all preparatory work steps have to be completed (cuttings, cut-outs, drillings, groove millings etc.). Only then can the adhesive bonding procedure be started.

a)



When it comes to ready-for-use boards, first put them in place without adhesive (dry) to check if they fit. Please, consider that a distance of at least 3 mm from fixed construction parts (floor, ceiling, wall etc.) has to be kept.

b)



**RESOPAL SpaStyling® BOARD** can be installed either by full-surface or strip-wise bonding. **RESOPAL SpaStyling® Wall adhesive** is a fast curing, elastic 1-component sealing and adhesive material on MS hybrid polymer base with accelerated initial bonding (High Tack), moisture-curing.

When it comes to strip-wise adhesive bonding, make sure that the distance between the adhesive beads is not larger than 250 mm. The edge distance should not exceed 30 mm. Furthermore, take care that there are no cavities underneath the **RESOPAL SpaStyling® BOARD** in wall areas where objects (washbasins, WC etc.) are supposed to be fixed later. For this reason, a full-surface application of the adhesive, very small distances between the adhesive beads or the installation of a special 3 mm material (e.g. **RESOPAL® Compact**) is recommendable.

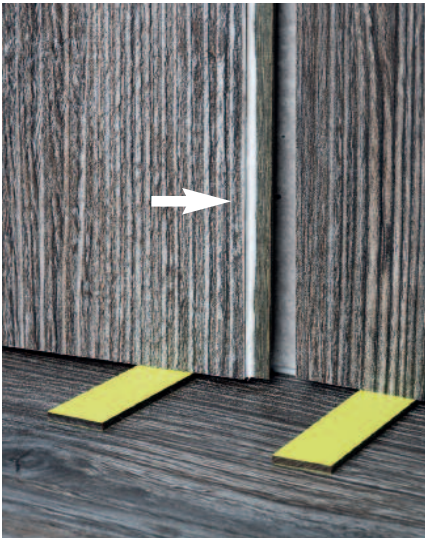


c)



Place **RESOPAL SpaStyling® BOARD** on spacers, adjust it and press it into the adhesive bed.

d)



The subsequent boards are connected to the previous board by tongue and groove as described above. After applying the adhesive in the grooves and inserting the tongue, connect the next board to the previous one and press it into the adhesive bed on the wall. Finally, check the evenness of the joint and, if necessary, correct it by pressing on the elevated areas.



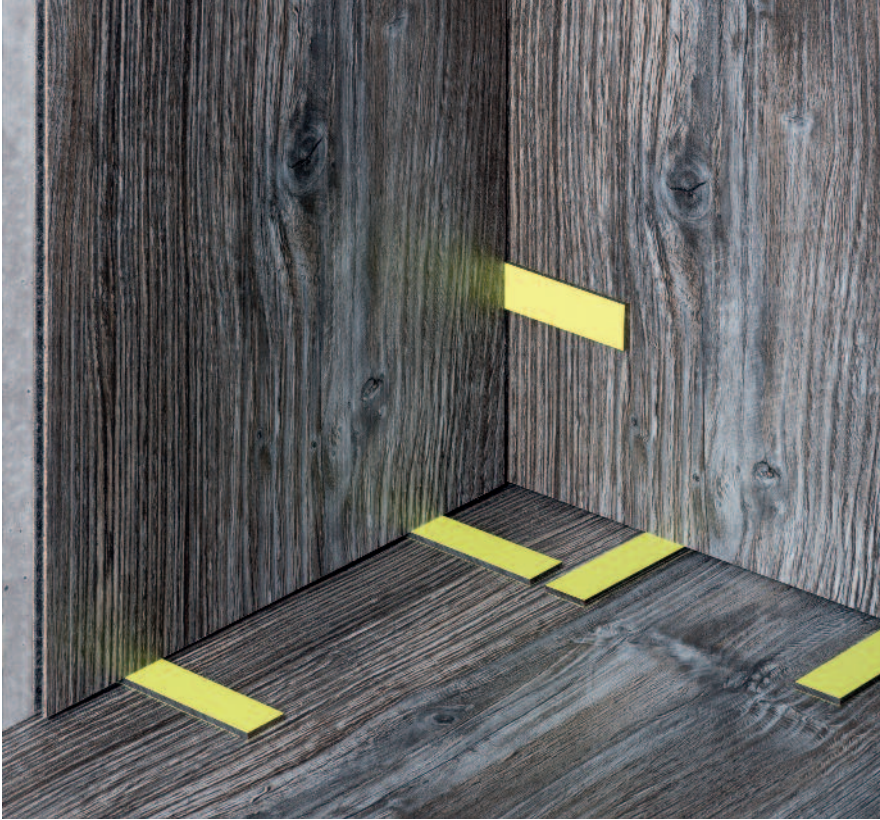
After installation of all **RESOPAL SpaStyling® BOARDS** all expansion joints supposed to compensate form changes and all connections to shower trays and bathtubs have to be sealed with silicone material.

## Processing instructions for RESOPAL SpaStyling®

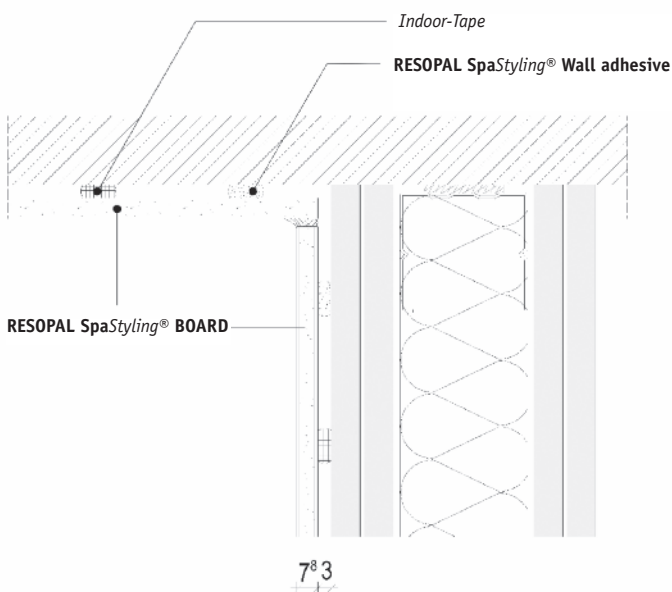
### 8.3 Corner solutions with RESOPAL SpaStyling® BOARD

#### Construction of inner and outer corners with RESOPAL SpaStyling®

Inner corner butt-jointed:

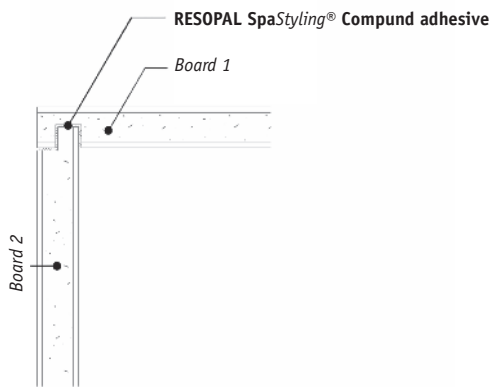


- Affix the first **RESOPAL SpaStyling® BOARD** at a distance of approx. 3 mm from the inner corner and the wall to the first wall side.
- Affix the second **RESOPAL SpaStyling® BOARD** at a distance of approx. 3 mm from the inner corner and the wall to the second wall side.
- Insert a PE round cord as a back filling into the 3 mm joint of the inner corner and create a permanently elastic joint by sealing it with silicone.

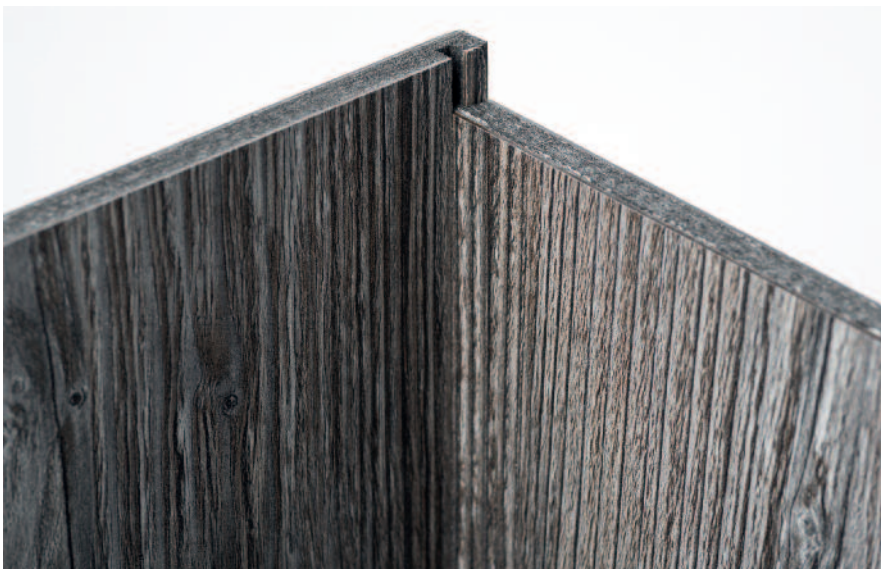
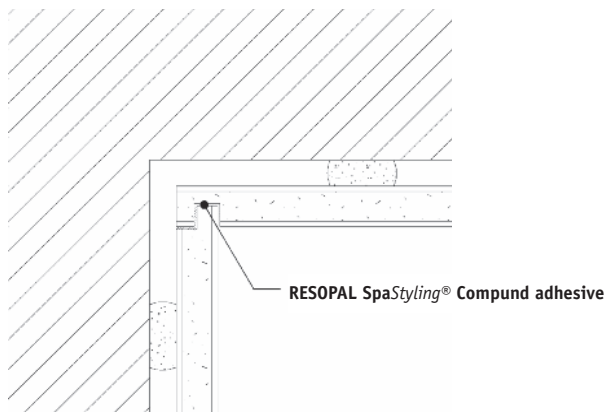


### Inner corner with milled groove and tongue connection

- a) Mill a 3 mm groove into the surface of the first board and a corresponding mortise into the second one thus creating a tongue of 3 mm width.



- b) Affix the first **RESOPAL SpaStyling® BOARD** at a distance of approx. 3 mm (adhesive layer thickness) from the inner corner of the wall to the first wall side.
- c) Fill a hybrid or PU based adhesive into the groove. Then insert the milled tongue of the second board into the groove, connect the boards and affix the second board to the second wall side

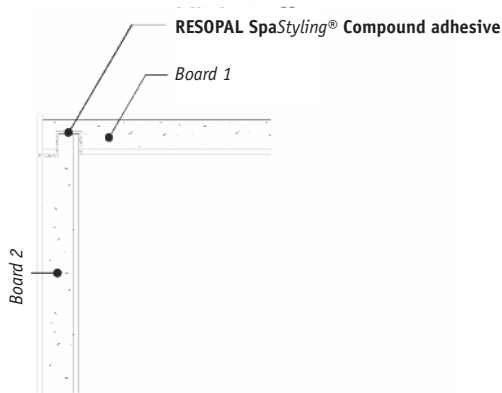




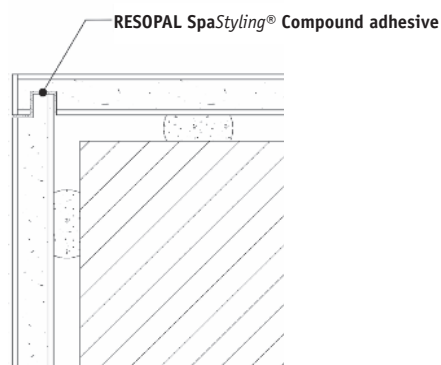
## Processing instructions for RESOPAL SpaStyling®

### Outer corner with narrow surface edging and milled groove and tongue connection

- a) Coat the edges of the first **RESOPAL SpaStyling® BOARDS** (see 5.4, p. 13).

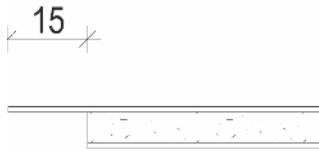


- b) Mill a 3 mm groove into the surface of the first board and a corresponding mortise into the second one.
- c) Affix the first **RESOPAL SpaStyling® BOARD** to the first wall side letting it protrude by approx. 10 mm (board thickness + adhesive layer).
- d) Fill **RESOPAL SpaStyling® Compound adhesive** into the groove. Then insert the milled tongue of board 2 into the groove, connect the boards and affix board 2 to the second wall side.

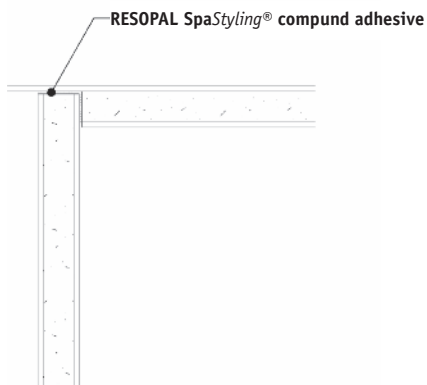


### Outer corner with mortised carrier material

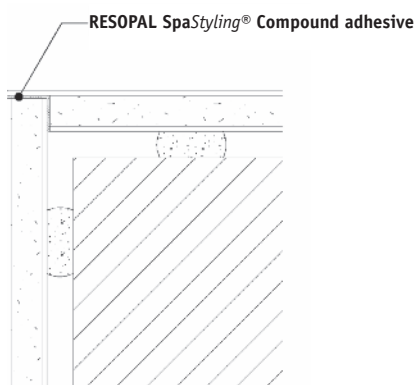
- a) The carrier material of the first **RESOPAL SpaStyling® BOARD** is mortised completely so that only the HPL panel remains and forms a mortise of approx. 15 mm of depth.



- b) The second **RESOPAL SpaStyling® BOARD** is glued into above mentioned mortise at right angles to the first board, i.e. the protruding HPL of the first board is affixed to the narrow surface of the second board. During the adhesive setting process the boards are held in place by a mould or with the help of clamps. After the adhesive has set, the protruding HPL is milled flush with the flush cutter.



- c) The previously finished outer corner (in this way even complete components can be formed with **RESOPAL SpaStyling® BOARDS**) is then installed on the wall or the tub support with the help of the **RESOPAL SpaStyling® Compound adhesive**.





## Processing instructions for RESOPAL SpaStyling®

### Construction of inner and outer mitre corners with RESOPAL SpaStyling®

RESOPAL SpaStyling® BOARD is also suited for prefabricating shells for front-wall, shower tray or bathtub claddings with mitred inner and outer corners.

a)



The panel ends of RESOPAL SpaStyling® BOARD are cut to mitre with the help of a circular saw or rather a hand-held circular saw. The mitred edges are connected by an adhesive tape on the front sides of the panels.

b)



RESOPAL SpaStyling® Compound adhesive is filled into the open mitre.

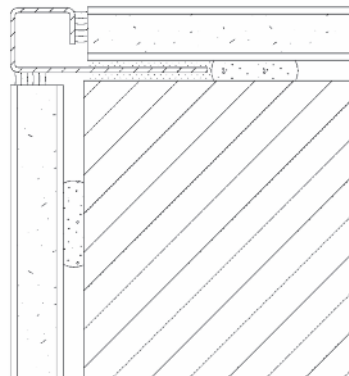
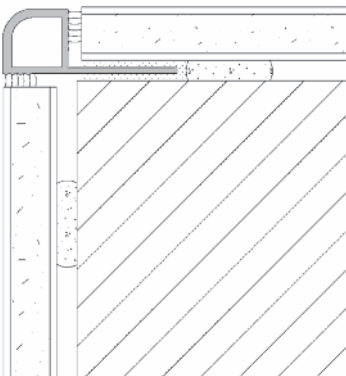
c)



Now, the panel parts are folded together and held in place during the adhesive setting process with the help of an adhesive tape and/or clamps. The prefabricated shells made of RESOPAL SpaStyling® BOARD are finally installed on the front wall or the tub support with RESOPAL SpaStyling® Compound adhesive.

#### Construction of inner and outer corners with customary profiles

For constructing inner and outer corners with RESOPAL SpaStyling® you can also use customary profiles (e.g. the Schlüter rail). In this case, make sure to seal the joint between the profile and the narrow surface of the RESOPAL SpaStyling® BOARD carefully to ensure the joint's waterproofness.



## Processing instructions for RESOPAL SpaStyling®

### 8.4 Installation of RESOPAL SpaStyling® SHOWER ELEMENTS

#### General information

RESOPAL SpaStyling® SHOWER ELEMENTS are delivered to size and must not be shortened.

The necessary sealing tapes for the waterproof connections to wall and floor are already integrated in the RESOPAL SpaStyling® SHOWER ELEMENT. The installation of the RESOPAL SpaStyling® SHOWER ELEMENTS requires an even, clean, stable, vibration-free surface suitable for adhesive bonding.

#### Installation of RESOPAL SpaStyling® SHOWER ELEMENTS with centred/decentred drainage

##### 1. Determination of installation height

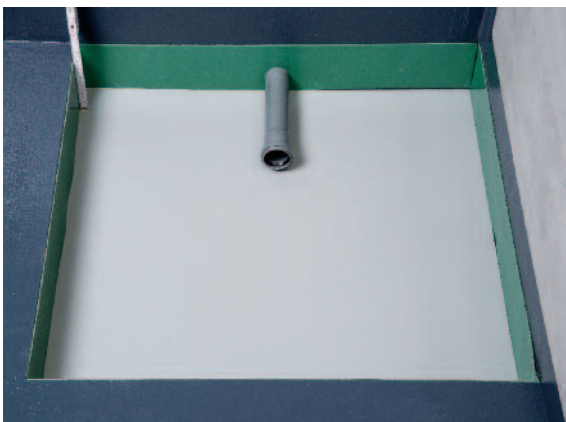
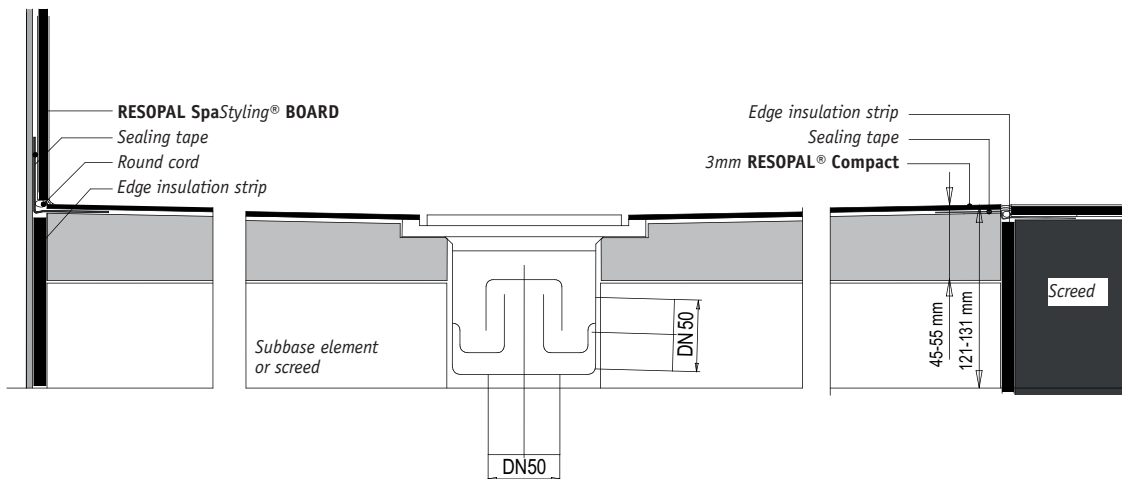
Depending on the size of the shower elements the overall construction of the element varies: The larger the elements the thicker the edge area due to the gradient. For this reason, the overall installation height has to be measured before installing the RESOPAL SpaStyling® SHOWER ELEMENT. (Illustration 1.1-1.2)

##### 2. Insertion of edge insulation strips

Surrounding edge insulation strips should be installed on all four sides for acoustic decoupling.

##### 3. Determination of the drainage centre

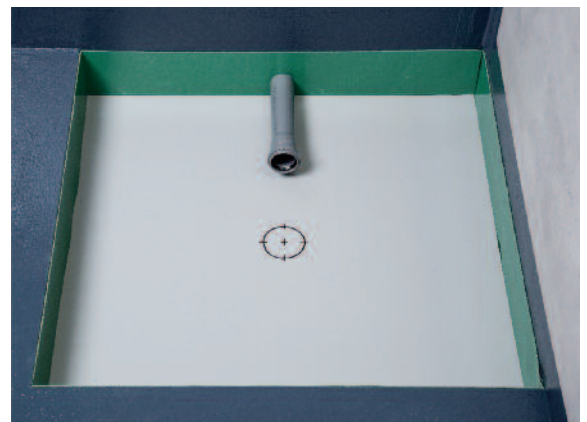
Insert the RESOPAL SpaStyling® SHOWER ELEMENT into the recess and mark the centre point of the drainage. (Illustration 3)



Illust. 1.1



Illust. 1.2



Illust. 3



#### 4. Subbase element

The height difference determined under point 1 is compensated by subbase elements.

#### 5. Preparation of the subbase elements

Install the drainage at the marked centre point in such a way that after installation of the shower system the drain set can be inserted, support the drain pipe by a substructure, if necessary. The space for the drainage and the drain pipe has to be cut out of the subbase element (Note: The recess must not be wider than 12 cm).

#### 6. Preparation of the surface

Uneven surfaces can be evened by applying a tile adhesive, so that the **RESOPAL SpaStyling® SHOWER ELEMENT** together with the subbase element can be placed on a level surface and is flush with the adjoining floor area. Now apply the tile adhesive on the surface and insert the **RESOPAL SpaStyling® SHOWER ELEMENT**. (Illustration 6.1 – 6.2)

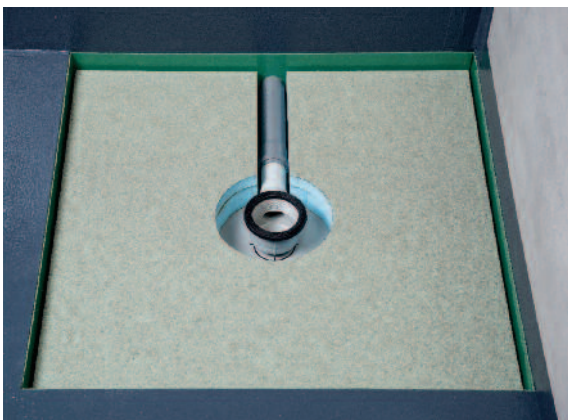
#### 7. Insertion of the RESOPAL SpaStyling® SHOWER ELEMENT

All **RESOPAL SpaStyling® SHOWER ELEMENTS**, whether with centred or decentred drainage or with drainage channel, are inserted in the same way. Place the sealing ring on the drain set and once more check the height of the drain set. Flap the sealing tapes attached to the **RESOPAL SpaStyling® SHOWER ELEMENT** upwards so that they do not disturb the installation process. Apply the tile adhesive on the full surface of the uppermost subbase element. Install the **RESOPAL SpaStyling® SHOWER ELEMENT**, align it horizontally and weigh down the element (with a cement bag) or put up a ceiling spreader on an appropriate pad. After that the gradient line to the drainage has to be checked once again. (Illustrations 7.1 – 7.2)

Note: The connection for the drainage and the leak test have to be carried out by an expert company.

#### 8. Bonded waterproofing

The sealing of connections to adjacent construction parts and penetrations requires special care. The attached sealing tapes have to be embedded into the still moist sealing material in the connections and painted over once again. Connections to floor and walls: After the adhesive has cured, adjust the sealing tapes to the respective construction situation. Please, consider that vertical connections between the **RESOPAL SpaStyling® BOARD** and the **RESOPAL SpaStyling® SHOWER ELEMENT** require a joint with a width of at least 3 mm and horizontal connections between the adjoining floor and the **RESOPAL SpaStyling® SHOWER ELEMENT** a joint with a width of at least 4 mm. Finally, these joints are sealed as shown in the illustration below. (Illustrations 8.1 – 8.2)



Illust. 5



Illust. 6.1

## Processing instructions for RESOPAL SpaStyling®



Illust. 6.2



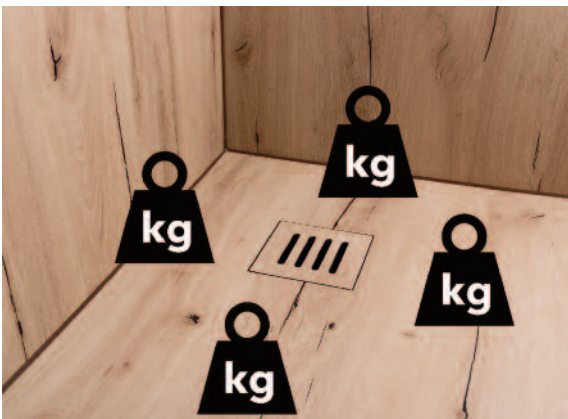
Illust. 7.1



Illust. 7.2



Illust. 8.1

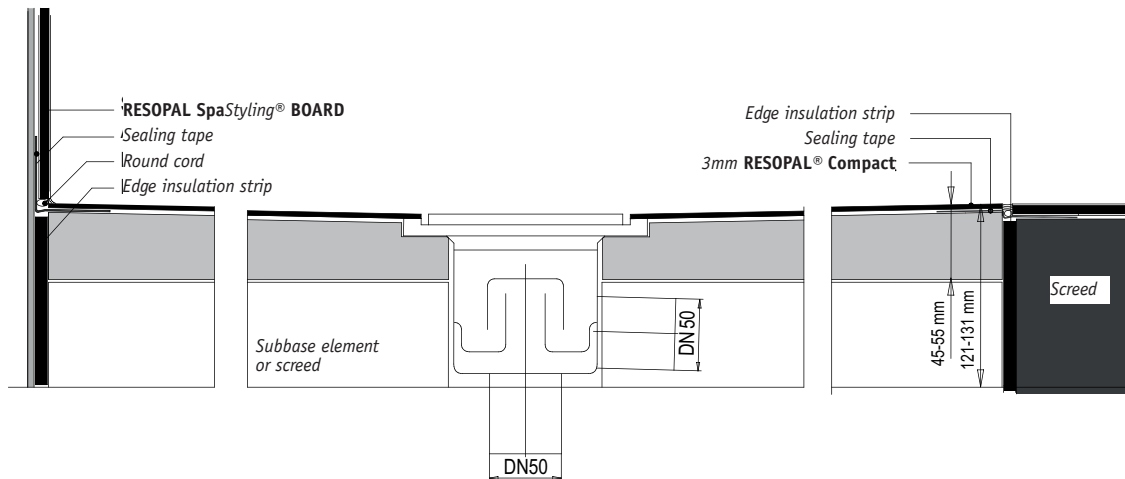


Illust. 8.2



### Connections to floor and wall

After the adhesive has cured, adjust the sealing tapes to the respective construction situation. Please, consider that vertical connections between the **RESOPAL SpaStyling® BOARD** and the **RESOPAL SpaStyling® SHOWER ELEMENT** require a joint with a width of at least 3 mm and horizontal connections between the adjoining floor and the **RESOPAL SpaStyling® SHOWER ELEMENT** a joint with a width of at least 4 mm. Finally, these joints are sealed as shown in the illustration below.



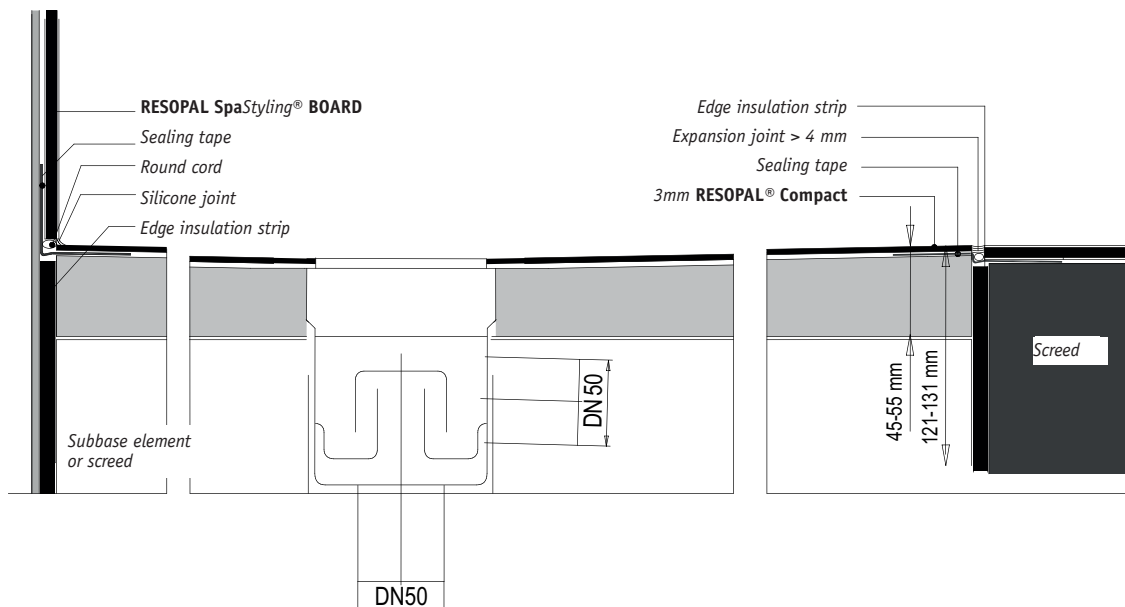
Connection between **RESOPAL SpaStyling® BOARD** and **RESOPAL SpaStyling® SHOWER ELEMENT** (left) and between **RESOPAL SpaStyling® FLOOR** and **RESOPAL SpaStyling® SHOWER ELEMENTS** (right)

### The installation **RESOPAL SpaStyling® SHOWER ELEMENTS** with drainage channel

The installation of **RESOPAL SpaStyling® SHOWER ELEMENTS** with drainage channel differs only slightly from the installation of **RESOPAL SpaStyling® SHOWER ELEMENTS** with centred/decentred drainage.

This point provides the instructions on installing **RESOPAL SpaStyling® SHOWER ELEMENTS** with drainage channel supplementing the instructions under point 8.5 (p.38). If not mentioned otherwise, the descriptions under point 8.5 (p.38) are applicable.

After determination of the installation height, compensation of the height difference, if necessary, and installation of the drainage the **RESOPAL SpaStyling® SHOWER ELEMENT** can be inserted. In this case, however, the **RESOPAL SpaStyling® SHOWER ELEMENT** is connected to the drainage system by screws. Then, following the work steps as described above, the **RESOPAL SpaStyling® SHOWER ELEMENT** with drain channel is installed horizontally and glued on the surface.



## Processing instructions for RESOPAL SpaStyling®

### Suggestion for the installation of RESOPAL SpaStyling® SHOWER ELEMENTS above floor level

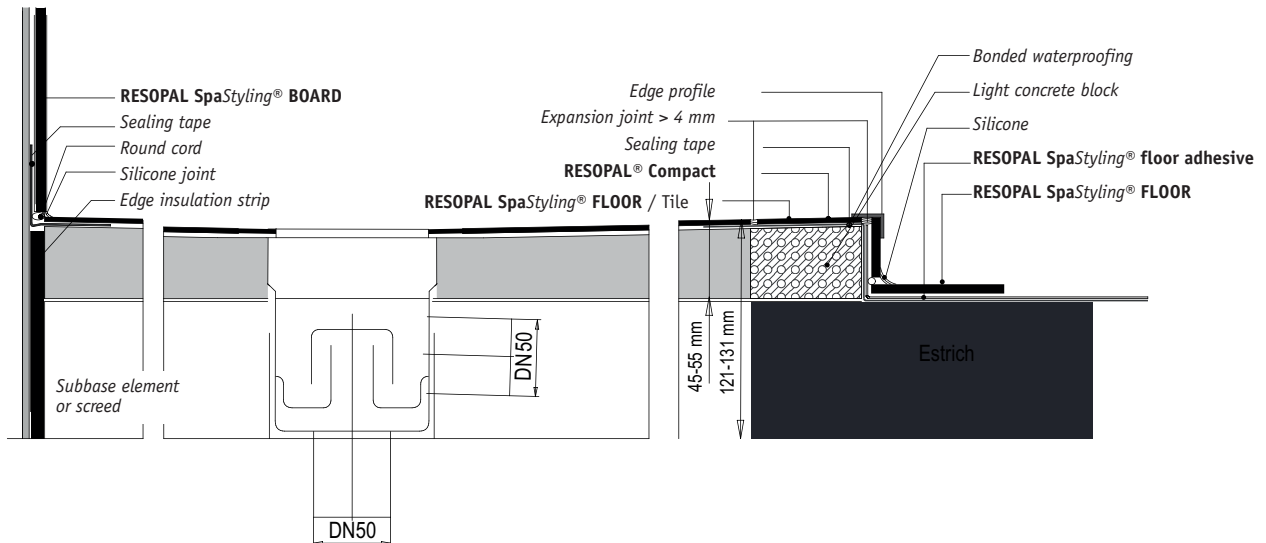
The work steps described on p. 38 to 41 refer to the flush installation of RESOPAL SpaStyling® SHOWER ELEMENTS. When it comes to the reconstruction and renovation of existing rooms, however, this type of installation is not always possible due to an insufficient screed height or inadequate drainage possibilities. In these cases, RESOPAL SpaStyling® SHOWER ELEMENTS can still be installed by creating a raised substructure. With this method, however, the formation of a small step cannot be avoided.

In the following, please, find some additional instructions supplementing the information under point 8.5 (Installation of RESOPAL SpaStyling® SHOWER ELEMENTS with centred/decentred drainage, p. 38):

- Determine the required minimum installation height.
- Create the necessary substructure with the help of subbase elements (see p. 40), a concrete screed (cf. p. 40 – in this case a form work is needed) or other building materials. Make sure to leave room for the drainage in this area.
- For the installation of RESOPAL SpaStyling® SHOWER ELEMENT the surface of the newly created substructure must be horizontal (levelled), plane, clean, stable and vibration-free.
- Now follow the work steps described under 8.5 (S. 38).
- After the adhesive bonding of the RESOPAL SpaStyling® SHOWER ELEMENT adjust the sealing tapes to the respective construction situation.

At the front and side parts of the step the sealing tapes have to be seamlessly worked into the bonded waterproofing of the floor.

- After that, the substructure/step can be clad with RESOPAL SpaStyling® BOARD panels with the help of edge profiles or existing profiles, e.g. the Schlüter rail (see illustration).
- Finally the joints and connections are filled with permanently elastic sealing material.



## Accessories

### 9.1 RESOPAL SpaStyling® Profiles

#### Bottom profile (L-profile)

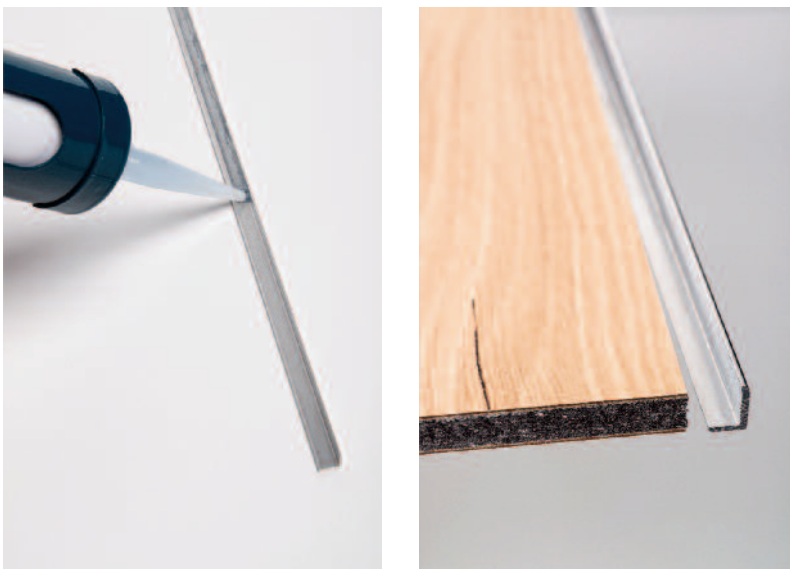
The **RESOPAL SpaStyling® Bottom profile** (L-profile) is a shiny silver aluminium profile.

#### 1. Application field

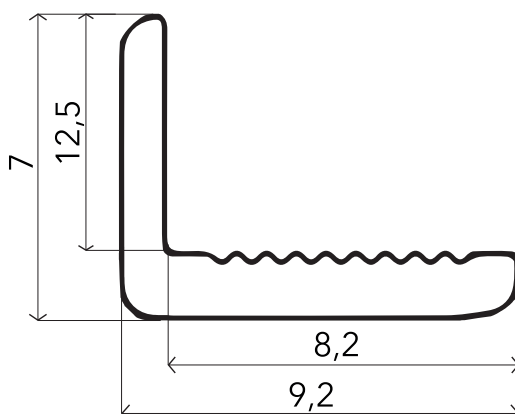
The **RESOPAL SpaStyling® Bottom profile** (L-profile) is an aluminium profile for edging the narrow surfaces of **RESOPAL SpaStyling® BOARDS**.

#### 2. Processing

Insert **RESOPAL SpaStyling® Compound adhesive** into the profile openings of the **RESOPAL SpaStyling® Bottom profile** (L-profile). The amount of adhesive must be dosed precisely. Then the profile is fixed to the long side of the **RESOPAL SpaStyling® BOARD** and held in place by an adhesive tape until complete curing. The profile and the **RESOPAL SpaStyling® BOARD** have to be connected in such a way that the joint is waterproof. Connective adhesive oozing out of the profile must be removed immediately from the surface.



#### 3. Cross section of L-profile – length 3050 mm



### Connection profile (H-profile)

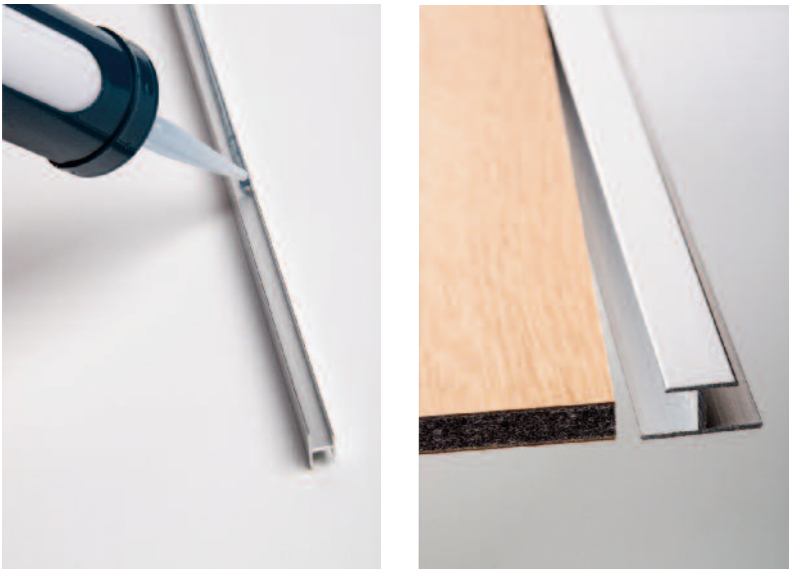
The **RESOPAL SpaStyling® Connection profile** (H-profile) is a shiny silver aluminium profile.

#### 1. Application field

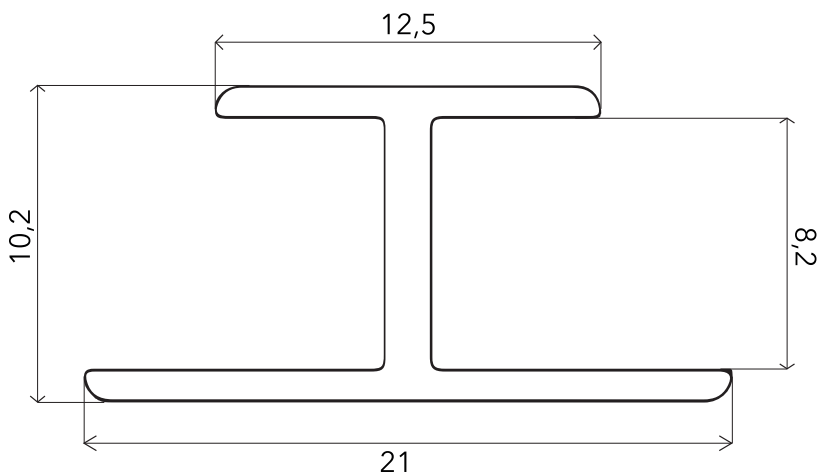
The **RESOPAL SpaStyling® Connection profile** (H-profile) is an aluminium profile used to connect two **RESOPAL SpaStyling® BOARD**.

#### 2. Processing

Insert **RESOPAL SpaStyling® Connection adhesive** into the profile openings of the **RESOPAL SpaStyling® Connection profile** (H-profile). The amount of adhesive must be dosed precisely. Then the profile is attached to the long side of the **RESOPAL SpaStyling® BOARD**. The profile and the **RESOPAL SpaStyling® BOARD** have to be connected in such a way that the joint is waterproof. Connective adhesive oozing out of the profile must be removed immediately from the surface.



#### 3. Cross section H-profile – length 3050 mm



### Corner profile (inner and outer corner)

Das **RESOPAL SpaStyling® Corner profile** (inner and outer corner) is a shiny silver aluminium profile.

#### 1. Application field

The **RESOPAL SpaStyling® Corner profile** (inner and outer corner) is an aluminium profile used to create inner and outer corners with **RESOPAL SpaStyling® BOARDS**.

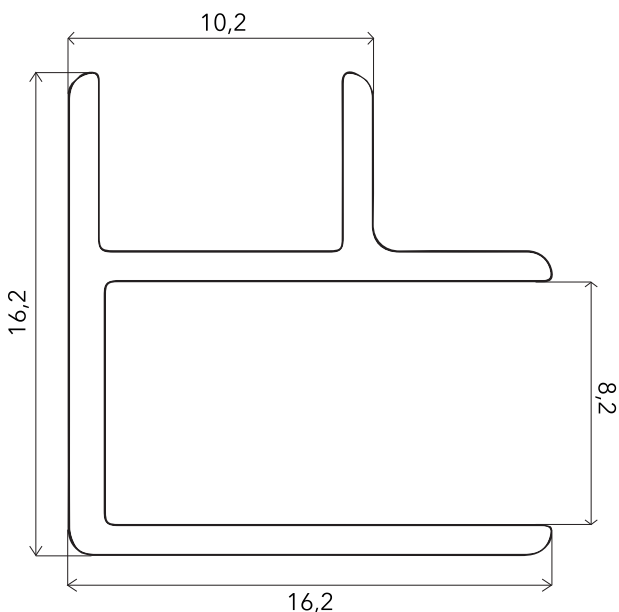
#### 2. Processing

Insert **RESOPAL SpaStyling® Compound adhesive** into one of the profile openings of the **RESOPAL SpaStyling® Corner profile** (inner and outer corner). The amount of adhesive must be dosed precisely. Then attach the profile to the long side of the first **RESOPAL SpaStyling® BOARD**. The profile and the **RESOPAL SpaStyling® BOARD** have to be connected in such a way that the joint is waterproof. Profile adhesive oozing out of the profile must be removed immediately from the surface. Now, insert profile adhesive into the profile opening of the second side of the **RESOPAL SpaStyling® Corner profile**.



The second **RESOPAL SpaStyling® BOARD** is placed on a 3mm spacer against the wall, inserted into the corner profile and then pressed into the adhesive bed. The profile and the **RESOPAL SpaStyling® BOARD** have to be connected in such a way that the joint is waterproof. Profile adhesive oozing out of the profiles must be removed immediately from the surface.

#### 3. Cross section corner profile – length 3050 mm





## 9.2 RESOPAL SpaStyling® Adhesive



### RESOPAL SpaStyling® Wall adhesive

**RESOPAL SpaStyling® Wall adhesive** is a fast curing, elastic 1-component sealing and adhesive material on MS hybrid polymer base with accelerated initial bonding (High Tack), moisture-curing, neutrally cross-linking and odorless. In addition, this adhesive is free of solvents, silicone and isocyanate. **RESOPAL SpaStyling® Wall adhesive** is recommended for the strip-wise bonding of **RESOPAL SpaStyling® BOARDS** to various wall surfaces.

#### 1. Application field

**RESOPAL SpaStyling® Wall adhesive** is recommended for the strip-wise bonding of **RESOPAL SpaStyling® BOARDS** to various wall surfaces. The adhesive is well suited for bonding on tiles, ceramic surfaces, stone, gypsum boards and gypsum fibreboards, metal, concrete and wooden material. Normally, it is no longer necessary to support the glued connection, as the adhesive cures immediately and holds the boards in place.

#### 2. Preparation of the surface

To achieve good results the wall surface has to be stable, plane, clean, dry, free of dust, oil and grease, following the acknowledged rules of the trade and corresponding to the state of art.

Many clean material surfaces and wall surfaces do not require the application of bonding agents thanks to their good adhesive properties. It is recommendable, however, to check the respective surface's adhesive ability by a prior test bonding. Porous, absorbent and difficult surfaces should always be treated with bonding agents/primers before installation of the boards.

#### 3. Processing

##### 3.1 General information

- can be applied directly out of the cartridge with a suitable cartridge gun (manual, compressed air, battery gun).
- adhesive application with attached triangle nozzle is recommended
- a layer thickness of 1 – 6 mm is recommended depending on the adhesive surface, material expansions, tensions and mechanical stress
- the adhesive bonding process must be completed within the processing time
- as a rule, it is not necessary to support bonded parts
- adhesive which is not yet fully cured can be removed with the help of rubbing alcohol or isopropyl
- fully cured adhesive can only be removed mechanically

### 3.2 Adhesive bonding of RESOPAL SpaStyling® BOARD to wall surfaces

When it comes to strip-wise bonding, make sure that the distance between the adhesive beads is not more than 250 mm and the distance between adhesive bead and board edge not more than 30 mm. Furthermore, take care that there are no cavities underneath the **RESOPAL SpaStyling® BOARD** in wall areas where objects (washbasins, WC etc.) are supposed to be fixed later.

#### RESOPAL SpaStyling® Compound adhesive

**RESOPAL SpaStyling® Compound adhesive** is an elastic, transparent and low-shrink 1-component sealing and bonding adhesive on MS hybrid polymer base, moisture-curing, neutrally cross-linking and odorless. In addition, this adhesive is free of solvents, silicone and isocyanate. **RESOPAL SpaStyling® Compound adhesive** is recommended for bonding **RESOPAL SpaStyling® BOARDS** to one another (e.g. tongue and groove or mitred connections) or connecting **RESOPAL SpaStyling® BOARD** to **RESOPAL SpaStyling® Profiles**.

#### 1. Application field

**RESOPAL SpaStyling® Compound adhesive** is recommended for bonding **RESOPAL SpaStyling® BOARDS** to another (e.g. tongue and groove or mitred connections) or connecting **RESOPAL SpaStyling® BOARD** to **RESOPAL SpaStyling® Profiles**. The adhesive allows permanent and transparent bonding to metal, plastic, polystyrene, XPS hard foam, glass, ceramic, natural and artificial stone, concrete, plaster, wooden material.

#### 2. Preparation of the assembly parts

To achieve good results the assembly parts have to be stable, clean, free of dust, oil and grease. It is recommended to clean the parts with the help of rubbing alcohol, isopropyl or acetone. Some materials do not require the application of bonding agents thanks to their good adhesive properties. It is recommendable, however, to check the respective surface's adhesive ability by a prior test bonding.

#### 3. Processing

##### 3.1 General information

- can be applied directly out of the cartridge with a suitable cartridge gun (manual, compressed air, battery gun)
- cut the nozzle to fit the assembly parts
- a layer thickness of 1 – 6 mm is recommended depending on the adhesive surface, material expansions, tensions and mechanical stress
- fully automated dosing is possible
- on breathable substrates the adhesive can be applied extensively with the help of a notched trowel
- the adhesive bonding process must be completed within the processing time
- adhesive which is not yet fully cured can be removed with the help of rubbing alcohol or isopropyl
- fully cured adhesive can only be removed mechanically
- the original transparency can get lost under the influence of UV light.

##### 3.2 Bonding of RESOPAL SpaStyling® BOARDS to one another and to RESOPAL SpaStyling® Profiles

The adhesive bonding of **RESOPAL SpaStyling® BOARDS** to one another (e.g. tongue and groove or mitred connections) and the connections between **RESOPAL SpaStyling® BOARDS** and **RESOPAL SpaStyling® Profiles** have to be carried out in such a way that they are waterproof. To achieve this, the adhesive is inserted into the profile openings or into each groove (on the groove cheeks) of the two **RESOPAL SpaStyling® BOARDS** to be connected. The amount of adhesive has to be dosed precisely. Adhesive material oozing out or adhesive residues on the surface have to be removed immediately.

### **RESOPAL SpaStyling® Floor adhesive**

**RESOPAL SpaStyling® Floor adhesive** is an elastic, 1-component adhesive on MS hybrid polymer base, moisture-curing and neutrally cross-linking. In addition, this adhesive is free of solvents, silicone, isocyanate and water. **RESOPAL SpaStyling® Floor adhesive** is recommended for the full-surface bonding of **RESOPAL SpaStyling® FLOOR** to various surfaces.

#### **1. Application field**

**RESOPAL SpaStyling® Floor adhesive** is recommended for the full-surface bonding of **RESOPAL SpaStyling® FLOOR** to various surfaces in indoor areas. The adhesive guarantees a good and permanent bonding of the floor panel to the following surfaces: cement screed, anhydrite, flowing anhydrite, concrete, terrazzo, gypsum fibreboard and wooden material. Basically, the adhesive is also suited for adhesive bonding on surfaces with subfloor heating up to a surface temperature of 26°C.

#### **2. Preparation of the surface**

The surface must comply with the relevant national standards (e.g. DIN 18365 Flooring works) and guidelines and the acknowledged rules of the trade. It must have adequate tensile and compressive strength, sufficient surface strength, has to be free of cracks, clean, plane, permanently dry and free of release agents. Adhesive residues have to be removed completely. Before starting the installation, check the surface's residual humidity and make sure that it corresponds to the **RESOPAL SpaStyling® FLOOR** specification.

Anhydrite floating screeds (AFE) have to be grinded and cleaned carefully before the bonding. The application of a primer is not necessary. When it comes to sanded mastic asphalt, prior bonding tests are recommended.

On surfaces exposed to increased moisture stress (e.g. in bathrooms) a bonded waterproofing layer has to be applied before application of the adhesive.

#### **3. Processing**

##### **3.1 General information**

- Apply the adhesive evenly on the surface using a notched trowel, place the RESOPAL SpaStyling® FLOOR panel immediately into the adhesive bed and hammer it into place carefully.  
Adhesive stains on the HPL surface have to be removed immediately with the help of rubbing alcohol or isopropyl.
- recommended notched trowel with TKB notch shape B3 – B5; Consumption approx. 800 - 1000 g/m<sup>2</sup>
- The above mentioned notch shape value is meant as a rough guideline, the final selection of the notch shape has to be done on site, as it depends on the structure of the surface and the length of the RESOPAL SpaStyling® FLOOR panel.  
In any case, make sure that the rear side of the RESOPAL SpaStyling® FLOOR panel is sufficiently covered by the adhesive.
- The RESOPAL SpaStyling® FLOOR can be walked on 24 to 48 hours after installation.

## Health Issues to be Considered during Application

The processing of **RESOPAL SpaStyling®** products or, more precisely, the applied carrier material on the basis of glass fibres and polypropylene does not represent any health risk.

### Health aspects:

A fibre's ability to reach a man's lower lung tissue when inhaled depends on the diameter of the fibres. Inhalable fibres have a diameter of less than 3 µm. Fibres with a diameter of more than 3 µm do not reach the lower respiratory tract and therefore cannot cause serious lung diseases. Should these fibres reach the upper respiratory tract, they can be ejected out of the body very quickly.

As already mentioned above, the fibres in the glass fibre polypropylene carrier material cannot harm the airways, as their diameter is significantly larger than 10 µm. In June 1987, the textile glass fibres used to strengthen the carrier material were judged unclassifiable with regard to carcinogenic effects on human beings by the International Agency for Research on Cancer (IARC) [1, 2].

### Processing:

During sawing, drilling and milling the glass fibre polypropylene carrier material loose fibres may occur. Several studies [1] on glass fibres, however, have proved that by machining the material (sawing, drilling and milling) only the length of the fibres changes, while the diameter always remains the same. Thus, when the fibres break, their length decreases, but the diameter does not change. For this reason, there is no danger that the fragments (dust) become respirable.

Although it is unlikely that fibres with a diameter of more than 3 µm are inhaled, fibres with a diameter of more than 4 to 5 µm, however, can cause irritations to the skin, eyes and throat. This is not an allergic reaction but a simple mechanical irritation that can be controlled by adequate personal protective equipment [1, 2].

## Wartung, Pflege und Reinigung

**RESOPAL®** boards (decorative high pressure laminates according to EN 438) are robust and do not require special care thanks to their resistant and hygienic non-porous surface. The cleaning recommendations refer to stains on the surface caused by normal usage as well as processing and installation of **RESOPAL SpaStyling®** products.

### General notes on cleaning:

Slightly stained boards are cleaned with the help of a soft, clean and, if necessary, moist cloth.

Severe stains can be removed with warm soapy or detergent water or a customary cleaning agent, possibly after letting the agent work for some time. Dirt residues can be dissolved with the help of organic solvents, e.g. ethanol, acetone, benzine or nail polish remover.

Please, use only clean, soft cloths, soft sponges or soft brushes to clean the boards! Do not apply waxes or polishing agents, as they will leave a coating on **RESOPAL®** surfaces. This coating will change the typical surface properties.

Tightly adhering lime stains can be removed with warm 10-percent acetic or citric acid. Afterwards, please, wipe with clear, warm water.

### Important note:

**Make sure to use only cleaning agents without abrasive, strongly acidic or strongly bleaching ingredients. Do not use high pressure cleaners and steam jets for cleaning RESOPAL SpaStyling® products!**

[1] J. R. Bender, C.W. Axten „Gesundheitliche Aspekte der Verwendung von Textilglasfasern zur Verstärkung“, Technical Association of the Pulp and Paper Industry, Marco Island, Florida, May 07, 1989.

[2] Vereinigung der europäischen Glasfaserhersteller „Endlosfilament-Glasfasern und ihr Einfluss auf die Gesundheit“

## Waste Disposal and Energy Recovery

Thanks to their high calorific value (18-20 MJ/kg) rests and residues of **RESOPAL SpaStyling®** products are particularly well suited for thermal recycling. They burn out completely at 700°C leaving water, carbon dioxide and nitrogen. **RESOPAL SpaStyling®** is therefore qualified for energetic recovery according to Section 6 of the German life-cycle management law. The conditions for good combustion processes are provided by modern officially approved industrial combustion plants. The ash left from these combustion processes can be dumped in controlled landfill sites

**RESOPAL SpaStyling®** rests and residues can be brought to controlled landfill sites complying with the presently applicable national and regional regulations.



### Warranty

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09/2017



