RESOPAL SPASTYLING® BOARD
PRODUCT DATA SHEET

1. Material description and composition

The RESOPAL SpaStyling Board consists of a waterproof composite carrier material, which is covered on both sides with a 0.8 mm decorative high-pressure laminate (HPL).

RESOPAL-HPL are decorative high-pressure laminates (HPL) for interior applications and meet the requirements of the normative "Classification and specifications for laminates with a thickness of less than 2 mm, intended to be bonded to a substrate" laid down in EN 438-Part 3.

The properties according to EN 438-3 for the respective RESOPAL HPL type used: Standard, Traceless Premium, specific decors (3606-EM Slate Wall Beige, 3602-EM Brick Wall Terracotta, 4014-EM Edgy Wood), Creative Selection are described under point 4. in the table. Detailed information on the respective HPL product is also given in the product data sheets for RESOPAL HPL, RESOPAL HPL Traceless Premium and RESOPAL HPL Creative Selection. The decorative high-pressure laminates are waterproof-bonded to the 6.2 mm thick and waterproof composite substrate. The composite substrate panels are characterised by high rigidity and toughness combined with a low weight per unit area. For applications in humid environments, this material retains good dimensional stability and is free from rotting and other decomposition processes.

1-Decor paper/overlay, melamine resin impregnated
2-Core paper (kraft paper), phenolic resin impregnated
3-Waterproof composite substrate

2. Formats

This information is available on our website www.resopal.de/infobook according to our product range.

3. Fields of application

With their decorative and functional properties, RESOPAL SpaStyling Boards are ideal for the interior finishing of wet (shower, bathtub, washbasin, WC etc.) and living areas It is recommended to use RESOPAL SpaStyling Boards only in interior areas with normal room climate (18 - 25°C/50 - 65% r.h.).

RESOPAL SpaStyling Boards are not suitable for use in saunas, steam baths or steam showers.

4. Technical data

4.1 Technical properties RESOPAL SpaStyling® Board (full size).

Table 1: Technical properties RESOPAL SpaStyling Board

PROPERTY	TEST PROCEDURES	UNIT	RESOPAL SPASTYLING BOARD
Physical properties, dimensions and tolerances			
Thickness **		mm	7.8
Thickness Creative Selection		mm	8.0
Thickness tolerance	ISO 13894-1*	mm	± 0.50
Length and width	ISO 13894-1*	mm	± 5.0 (unmachined edges)
Edge straightness	ISO 13894-1*	mm/m	- (unmachined edges)
Squareness of edges	ISO 13894-1*	mm/m	- (unmachined edges)
Flatness	ISO 13894-1*	mm/m	≤ 3.0
Resistance to impact with a small diameter ball	DIN EN 438-2–20	N (min)	20
Resistance to impact loading with a large diameter ball (optional)	DIN EN 438-2–21	Drop height mm (min.)	800
		Indentation diameter mm (max.)	10
Fire behaviour	EN 13501-1	Building material Class	E
Emission formaldehyde	EN 16516	Class	E1 (≤ 0.1 ppm)
Emission of volatile organic compounds (VOC)	EN ISO 16000-9	Emission class according to French regulation (decree no. 2011-321)	A (scenario wall)

* in accordance with ISO 13894-1 ** HPL Standard, HPL Traceless Premium, specific decors (3606-EM Slate Wall Beige, 3602-EM Brick Wall Terracotta, 4014-EM Edgy Wood)

4.2 Technical properties HPL according to EN 438-3

Table 2: Technical properties according to EN 438-3

PROPERTY	TEST METHOD EN 438-2: 2016	UNIT	HPL	TP	SPECIFIC DECORS 3606-EM 3602-EM | 4014-EM	CREATIVE SELECTION
Physical properties and dimensions						
Density	EN ISO 1183-1	g/cm³	≥1.35			
Thickness	EN 438-2-5	mm	0.8			0.9
Dimensional stability at high temperature	IN 438-2-17	% longitudinal transverse	≤0.55 ≤1.05			
Coefficient of thermal expansion	DIN 51045 +80°C/-20°C	1/K longitudinal transverse	0.9×10^{-5} 1.6×10^{-5}			
Mechanical properties						
Resistance to boiling water	EN 438-2-12	Grad(1) Glossy surfaces Other surfaces	≥3 ≥4	≥4	≥4	≥1* ≥1*
Susceptible to cracking under stress	EN 438-2-23	Grad(1)	≥4			
Surface properties						
Dirt, stains and similar surface defects Fibres, hairs and scratches	EN 438-2-4	mm²/m² mm/m²	≤1.0 ≤10			
Resistance to surface abrasion	EN 438-2-10	Number of revolutions Initial abrasion point	≥150			
Resistance to water vapour*	EN 438-2-14	Grad(1) Glossy surfaces Other surfaces	≥3 ≥4	≥4	≥4	≥1* ≥1*
Resistance to dry heat (160°C)*	EN 438-2-16	Grad(1) Glossy surfaces Other surfaces	≥3 ≥4			
Resistance to moist heat (100°C)*	EN 438-2-18	Grad(1) Glossy surfaces Other surfaces	≥3 ≥4			
Scratch resistance	EN 438-2-25	Grad(2) Glossy surfaces Other surfaces	≥2 ≥3	≥3	≥3	≥2 ≥3
Stain resistance	EN 438-2-26	Groups 1 and 2 Group 3	5 ≥4			
Light fastness (Xenon arc lamp)	EN 438-2-27	Grey scale	4 to 5			
Health and environmental						
Food fastness/ Declaration of no objection	EN 1186, 13130, CEN/TS 14234	Contact with food	Yes			
Antibacterial effect(3)	JIS Z 280, ISO 22196	Reduction as a percentage	99.9			

* Properties with values below 3 do not meet the minimum requirements of EN 438. Extreme wetness may cause blistering on the surface. Please observe the recommendations for application and cleaning!

(1) Grade 5 - no visible change, Grade 4 - slight change in gloss and/or colour, only visible at certain viewing angles, Grade 3 - moderate change in gloss and/or colour, Grade 2 - significant change in gloss and/or colour or blistering of surface, Grade 1 - delamination of core layers (2) to ≥90% continuous and clearly visible double circles as scratch marks, Grade 1 - 1N, Grade 2 - 2N, Grade 3 - 4N, Grade 4 - 6N, Grade 5 - > 6N | (3) Info sheet Biocide Regulation.EU No. 528 2012.

4.3 Additional technical properties and safety information

Table 3: Additional technical properties

PROPERTY	DESCRIPTION
Physical and chemical properties	
Physical state	Solid
Solubility	Insoluble in water, oil, methanol, diethyl ether, n-octanol, acetone.
Boiling point	None
Outgassing	None
Calorific value	17–19 MJ/kg
Heavy metals	RESOPAL SpaStyling Board do not contain any toxic compounds based on antimony/ barium/cadmium/chromium III/chromiumVI, lead/mercury/selenium
Asbestos	RESOPAL SpaStyling Board do not contain any components
Pentachlorophenol (PCP)	RESOPAL SpaStyling Board do not contain any components
RoHS	RESOPAL SpaStyling Board meet the requirements of EU directives 2011/65, 2015/863 RoHS (Restriction of Hazardous Substances). RESOPAL RESOPAL SpaStyling Board does not contain any of the following restricted substances: lead, mercury, cadmium, chromium, polybrominated biphenyls (PBB), ppolybrominated diphenyl Ethers (PBDE), pentabromodiphenyl ethers (PentaBDE), octabromodiphenyl ethers (OctaBDE); bis(2-ethylhexyl) phthalate (DEHP) Butyl benzyl phthalate (BBP) Dibutyl phthalate (DBP) Diisobutyl phthalate (DIBP).
Safety data sheet	RESOPAL SpaStyling Boards are not hazardous substances within the meaning of the Chemicals Act, a special labelling or the preparation of a safety data sheet is not required.
Stability and reactivity	
Stability	RESOPAL SpaStyling Boards are stable and durable; they are neither reactive nor corrosive.
Dangerous reactions	None
Incompatibility	Strong acids or alkaline solutions may damage the surface.
Fire and explosion protection	
Ignition temperature	approx. 400°C
Flash point	Not applicable
Thermal decomposition	Possible above 250°C. Toxic gases (e.g. carbon monoxide, carbon dioxide, ammonia, hydrogen chloride) may be produced depending on fire conditions (temperature, oxygen content etc.). are formed.
Extinguishing agents	Class A
Explosion hazard	Dust class ST-1
Explosion limits	Maximum dust concentration 60 mg/m³
Electrostatic behaviour	HPL surfaces minimise the generation of electrostatic charge through contact change or friction with other materials. It does not need to be earthed. The surface resistance is 10^9 - 10^{12} Ohm and the charging capacity according to DIN EN 61340-4-1 is V < 2 kV. Thus, HPL is an antistatic agent.

5. Certifications and tests

Table 4: Certifications and test reports

PROPERTY	STANDARD	UNIT	RESOPAL SPASTYLING BOARD
Fire behaviour Building construction	EN 13501-1	Building material class	E[4]
Emission VOC (Volatile Organic Compounds/ Substances)	ISO 16000-9	Emission class according to French regulation (Décret no 2011-321)	A (scenario wall)
Emission of formaldehyde	EN 16516	Classification	E1 (< 0.1 ppm)
Food safe/not harmful declaration	EN 1186 / 13130 / CEN/TS 14234	Contact with food	Yes
Antibacterial efficacy	JIS Z 2801/ISO 22196	Reduction as a percentage	99.9
Allergy-friendly products	ECARF Quality seal	Allergy-friendly	ECARF – Certificate certifying Allergy-friendly quality

(4) Pay attention to details (e.g. classification report, Official Journal of the European Union); e.g. validity in combination with substrate material/ substrate, adhesive system).

6. Storage and transport

RESOPAL SpaStyling Board must be transported and stored flat, horizontally, fully flat and on a sufficiently large pallet. The panels must be stored in a closed storage area under moderate indoor conditions (10 - 30°C and 40 - 65% relative humidity) and protected against moisture and mechanical damage. The outermost panel of each stack must be protected with a cover plate (coated).

The top panel of each stack must be weighted down with a cover plate (coated). The protection applied to the pallet must be maintained each time panels are removed from the stack. If the panels are stored for a longer period of time, make sure they are stored flat, otherwise warping or deformation may occur. For vertical storage, we recommend an inclined position at 80 degrees with full-surface support and a counter-support on the floor to prevent slippage.

The protective film used for transport must be removed simultaneously from both sides no later than six months after delivery.

RESOPAL SpaStyling Boards are not considered as hazardous material in terms of transport regulations, therefore labelling is not required.

7. Handling and processing

7.1 General instructions

Check RESOPAL SpaStyling Board for damage and defects (including colour and surfaces) before processing/installation. Due to product-specific differences of the individual products (e.g. RESOPAL HPL, RESOPAL Compact etc.) slight visual and haptic differences may occur with the same surface and the same decor. These differences may also be noticeable or perceptible in different formats of the same product group.

For RESOPAL SpaStyling Boards with Creative Selection, minor colour deviations between the samples and the final product, as well as the individual production batches, may occur due to the manufacturing process. The surface structure between the collection goods and products of the RESOPAL Creative Selection may differ slightly in terms of appearance.

When processing RESOPAL SpaStyling Board, the usual safety regulations for dust removal and fire protection must be observed. Always wear protective gloves when handling RESOPAL SpaStyling Board due to possible sharp edges. Contact with dust does not cause any problems; however, there are a limited number of people who may be allergic to machining dusts of all kinds (and therefore also to SpaStyling Board dusts).

7.2 Machining

RESOPAL SpaStyling Boards can be processed in the same way as a standard composite element consisting of a wood-based material carrier and Resopal HPL on both sides. For this reason, the familiar processing machines for wood materials can be used for processing RESOPAL SpaStyling Boards. Tools with carbide-tipped cutting edges have proven to be suitable for machining RESOPAL SpaStyling Boards.

RESOPAL SpaStyling Boards are unedged and large-sized elements which are delivered in different dimensions. The required board formats are cut out of these. As the edges of RESOPAL SpaStyling Boards are not finished, a circumferential trimming of at least 20 mm is recommended.

When cutting RESOPAL SpaStyling boards with decors from the Steine [Stones] and Creative Selection collections, the following must also be taken into account:

RESOPAL SpaStyling® Boards with specific decors:

For technical production reasons, the decor of specific decors (3606-EM Slate Wall beige, 3602-EM Brick Wall terracotta and 4014-EM Edgy Wood) does not run parallel to the board edge or at right angles to the board format. When joining two or more panels of the same decor, it is therefore necessary to cut the panels additionally according to the decor alignment.

For a continuous surface with 2 or more SpaStyling boards, the SpaStyling boards are laid together at the long edges to be joined later before cutting. If this does not result in the desired decorative gradient across the butt joint, it may be necessary to turn one of the two SpaStyling Boards by 180°. In the next step, the SpaStyling boards are shifted against each other at the panel joint until a best possible decor alignment is obtained.

Now the cutting lines required for cutting the panels to length and width can be marked.

Furthermore, when cutting to size, it should be noted that the total width of the contiguous surface cannot be evenly distributed over the number of panels. Only the edge tiles of this area can be reduced in width.

Due to manufacturing tolerances, a slight offset in continuous decor lines is possible even after a cut. Such tolerances do not entitle to complaints and must be accepted.

RESOPAL SpaStyling® Boards with Creative Selection:

When cutting RESOPAL SpaStyling Boards with RESOPAL Creative Selection decor, a distinction must be made between decors “with repeat” and “without repeat”.

The SpaStyling boards that have a decor "without pattern repeat" have a decor that extends over the entire board. Cutting can be carried out in the same way as described above for HPL and Traceless Premium.

The SpaStyling Boards that have a decor "with repeat" have a décor that, due to the repetition, offers the possibility of reproducing the decor across the entire application width without interrupting the pattern.

For these decors, an area for cutting has been integrated into the panel width in order to achieve a precise and optimised connection between the panels. Due to manufacturing tolerances, a slight offset in continuous decor lines is possible even after a cut. Such tolerances do not constitute a complaint and must be accepted.

In the RESOPAL® Creative Selection product data sheet, further instructions are given for cutting and joining panels with decor "with repeat".

After cutting and edge processing of the required panel parts, they can be further processed and assembled as follows, irrespective of the decor selected:

The application of the RESOPAL SpaStyling Connection Profile offers another possibility to connect RESOPAL SpaStyling Boards with each other. Larger thickness tolerances of RESOPAL SpaStyling Boards with RESOPAL HPL Traceless Premium and with RESOPAL HPL Creative Selection can lead in individual cases to the opening being too small for the RESOPAL SpaStyling Profiles (connecting and corner profile). In these cases we recommend a conventional connection without the use of RESOPAL SpaStyling Profiles. The connection between two RESOPAL SpaStyling Boards must always be made watertight.

7.3 Installation

Before installation, the boards must be acclimatised for at least 3 days in the rooms to be installed, lying on a flat surface under the following climatic conditions. A normal room climate should prevail (temperature 18 - 25°C; relative humidity 50-65%). These climatic conditions should also be maintained during subsequent use of the rooms.

RESOPAL SpaStyling Boards to be bonded to the wall substrates and the wall substrate must be clean, dry and free of dust, oil and grease on the adhesive side. Furthermore, the wall substrate must comply with the recognised applicable rules of the trade and be load-bearing and even (max. ± 5 mm height difference per 2 m).

RESOPAL SpaStyling Boards can be applied on various types of plaster (gypsum and cement plaster), on dry construction substrates (plasterboard and gypsum fibreboard), on various wood-based materials (laying chipboard, OSB boards etc.), on plasterboard and gypsum fibreboard. CAUTION: Wood-based materials are not permitted for use as substrates for bonded waterproofing) and on existing stone and ceramic surfaces (carry out basic cleaning before laying).

When gluing in strips, it must be ensured that the distance between the adhesive beads is a maximum of 250 mm and between the adhesive bead and the edge of the board a maximum of 30 mm. Furthermore, it must be ensured that the RESOPAL SpaStyling Board is not hollow in the areas of the wall to which objects (washbasin, WC etc.) will later be attached.

After attaching all RESOPAL SpaStyling Boards, all movement joints that have the task of compensating for changes in shape, connections of shower trays or bathtubs must be sealed with a silicone compound. Furthermore, all narrowflächen of RESOPAL SpaStyling Board must be sealed against penetrating moisture.

The "Processing Instructions RESOPAL SpaStyling" brochure provides further information for the processing and installation of RESOPAL SpaStyling Boards.

8. Cleaning and maintenance

The surface of RESOPAL SpaStyling Boards is neither corrosive nor oxidising. They do not require any further surface treatment (e.g. with lacquers or paints). All decorative RESOPAL HPL surfaces can be cleaned with mild soap solutions. Stubborn stains (e.g. lacquer) can be removed with organic solvents (e.g. ethanol, acetone). Abrasive cleaning agents (e.g. scouring powder, steel wool) must not be used as these alter the surfaces.

Strongly colouring substances may leave slight stains on the surface of RESOPAL SpaStyling Boards. To avoid aesthetic changes, these stains must be removed immediately after exposure.

Please always carry out cleaning tests with any cleaning agent on non-visible areas at the beginning. In the case of heavy soiling, prolonged exposure to the cleaning agent can help to remove the soiling completely. At the same time, aggressive substances can change or damage the surface if they are left on the RESOPAL HPL surface for too long.

Changes to the surface of RESOPAL SpaStyling Boards (e.g. scratches, abrasion marks, dirt) that may occur through daily use are signs of wear. Special attention should be paid to particularly matt and glossy surfaces. The usual surface changes, such as micro-scratches and gloss deviations, become more visible and are even more pronounced in combination with dark decors.

The Cleaning and Care for RESOPAL HPL and RESOPAL HPL Traceless Premium data sheets provide further information on cleaning and care of the respective surface.

9. Sustainability and Environment

Resopal is certified according to EN ISO 14001 and EN ISO 50001.

Formaldehyde emissions comply with the limit value of ≤0.1 ppm according to EN 16516 (corresponds to ≤0.05 ppm according to EN 717-1) and thus meet the requirements of the German Chemicals Prohibition Ordinance.

Furthermore, the emissions of VOC (Volatile Organic Compound) are also very low, so that depending on the test scenario, the following classification (cf. test report Eurofins) is achieved according to the French VOC Ordinance:

Class A (with the test scenario for walls with a load factor of 1.0 m^2/m^3).

The surfaces of RESOPAL SpaStyling Boards are allowed to come into direct contact with all foodstuffs and can be safely used as intended in food processing.

The Environmental Product Declaration (EPD) of the ICDLI describes the environmental properties of HPL. With clearly defined parameters, it provides quantitative, verified and objective information on the impact of HPL on the environment. The entire life cycle of HPL (raw material extraction, production, transport, use, disposal) is taken into account.

RESOPAL SpaStyling Boards is a product and not a chemical substance, therefore the REACH regulation is not applicable. For more information, see the statement on the REACH Regulation.

10. Waste disposal and energy recovery

Residues and waste from RESOPAL SpaStyling Boards are particularly suitable for energetic (thermal) recycling due to their high calorific value and fulfil the requirement according to §6 paragraph 1 number 4 of the Recycling Management Act (KrWG).

The conditions for good combustion processes and waste gas treatment are ensured in waste incineration plants.

Residues and waste from RESOPAL SpaStyling Boards are assigned to the six-digit waste code AVV 200301 and the waste designation "mixed municipal waste" in accordance with the Ordinance on the European Waste List (Waste List Ordinance - AVV).

11. Overview of technical documents

General

Product Data Sheet RESOPAL HPL

Product Data Sheet RESOPAL HPL Traceless Premium

Product Data Sheet RESOPAL HPL Creative Selection

Resopal brochure INFOBOOK

Technical Manual - General Processing Recommendations for RESOPAL HPL

HPL Compendium

Certifications and tests

Declaration of Conformity RoHS

Classification report EN 13501-1; E

Test report VOC indoor air comfort Gold A

Certificate of Conformity ISEGA (contact with food)

ECARF certificate

Cleaning and maintenance

Cleaning and maintenance for RESOPAL HPL and RESOPAL HPL Traceless Premium data sheets

Disinfectant resistance RESOPAL surfaces data sheet

Sustainability and Environment

Environmental Product Declaration (EPD) for HPL (ICDLI)

Environmental Product Declaration (EPD) - Explanation of EPDs (ICDLI)

Statement Recycling rate ISO 14021 RESOPAL HPL

Certificate EN ISO 9001

Certificate EN ISO 14001

Certificate EN ISO 50001

Statement under REACH