

# RESOPAL CREATIVE SELECTION COMPACT

## PRODUCT DATA SHEET

### 1. MATERIAL DESCRIPTION AND COMPOSITION

RESOPAL Creative Selection Compact is a decorative high-pressure laminate (HPL) board in accordance with EN 438 and ISO 4586, and displays characteristics described in table 3.1.

RESOPAL Creative Selection Compact consists of layers of paper (60-70%) impregnated with thermoset resin (30-40%) and pressed together under high temperature ( $\geq 120^{\circ}\text{C}$ ) and high pressure ( $\geq 5 \text{ MPa}$ ) to create a homogeneous, pore-free material (bulk density  $\geq 1.35 \text{ g / cm}^3$ ) with the desired surface properties.

In contrast to standard RESOPAL Compact boards with rotogravure paper, these boards are manufactured with digital printing paper. The decors are printed in high resolution (600dpi) to achieve high-quality prints.

RESOPAL Creative Selection Compact features a special structure in order to integrate the digital printing paper between the core layer and the protective overlay. This structure and the resulting properties require special attention during processing and application.

RESOPAL Creative Selection Compact is available with a decorative front and white back, or with decorative front and back, and standard or flame retarding quality.

Depending on the type of decor, RESOPAL Creative Selection Compact is available in dimensions 3050x1320 mm or 3050x1300 mm to ensure a usable size of 3050x1300 mm. Decors that require a precise cut to ensure patterns repeat correctly and panels are correctly joined feature an extra trim allowance.

### 2. FORMATS

Find our portfolio on our website: [www.resopal.de/infobook](http://www.resopal.de/infobook)

### 3. TECHNICAL DATA

#### 3.1 TECHNICAL PROPERTIES IN ACCORDANCE WITH EN 438

		Surface	60 / EM / HW	60 / EM / HW
		Thickness (mm)	4 - 6 - 8 - 10 - 12	
		Quality	standard	flame-retardant
		Application	horizontal	horizontal
Property	Test method	Unit		
<b>Physical properties and dimensions</b>				
Density	EN ISO 1183-1	g/cm <sup>3</sup>	≥ 1,35	≥ 1,35
Thickness	DIN EN 438-2-5	mm	4 mm: ±0,30 / 6 mm: ±0,40 8 - 10 mm: ±0,50 / 12 mm: ±0,60	
Length and width	DIN EN 438-2-6	mm	+10 / -0	+10 / -0
Edge straightness	DIN EN 438-2-7	mm/m	≤ 1,5	≤ 1,5
Edge squareness	DIN EN 438-2-8	mm/m	≤ 1,5	≤ 1,5
Evenness / flatness	DIN EN 438-2-9	mm/m	4 mm: ≤ 8,0 / 6 - 8 mm: ≤ 5,0 10 - 12 mm: ≤ 3,0	
Dimensional stability at elevated temperatures	DIN EN 438-2-17	% longitudinally transverse	4 mm: ≤ 0,40 / ≥ 5 mm: ≤ 0,30 4 mm: ≤ 0,80 / ≥ 5 mm: ≤ 0,60	
<b>Mechanical properties</b>				
Resistance to boiling water	DIN EN 438-2-12	Increase in mass: %	4 mm: ≤ 5,0 ≥ 5 mm: ≤ 2,0	4 mm: ≤ 7,0 ≥ 5 mm: ≤ 3,0
		Increase in thickness: %	4 mm: ≤ 6,0 ≥ 5 mm: ≤ 2,0	4 mm: ≤ 9,0 ≥ 5 mm: ≤ 6,0
		Appearance: rating	≥ 1 <sup>(*)</sup>	≥ 1 <sup>(*)</sup>
Resistance to impact by small-diameter ball	DIN EN 438-2-21	Drop height mm 2,0mm ≤ t < 6,0mm 6,0mm ≤ t	≥ 1400 ≥ 1800	≥ 1400 ≥ 1800
		Impress diameter mm	≤ 10	≤ 10
Susceptibility to stress cracking	DIN EN 438-2-24	Rating	≥ 4	≥ 4
Resistance to bending	ISO 178	MPa longitudinally transverse	≥ 80 ≥ 80	≥ 80 ≥ 80
E-Module	ISO 178	MPa longitudinally transverse	≥ 9000 ≥ 9000	≥ 9000 ≥ 9000
<b>Surface properties</b>				
Dirt, stains, similar surface defects	DIN EN 438-2-4	mm <sup>2</sup> /m <sup>2</sup>	≤ 1,0	≤ 1,0
Fibres, hair, scratches		mm/m <sup>2</sup>	≤ 10	≤ 10

(\*) Properties with values below 3 do not meet the minimum requirements of EN 438. In extreme moisture conditions, bubbles can form on the surface. Please note the recommendations for use and cleaning!

Rating 5 - no visible change; 4 - slight change only in level of gloss and/or colour from certain angles; 3 - moderate change in gloss and/or colour; 2 - obvious change in gloss and/or colour or blisters on surface); 1 delamination

	<b>Surface</b>		60 / EM / HW	60 / EM / HW
	<b>Thickness (mm)</b>		4 - 6 - 8 - 10 - 12	
	<b>Quality</b>		standard	flame-retardant
	<b>Application</b>		horizontal	horizontal
<b>Property</b>	<b>Test method</b>	<b>Unit</b>		
Resistance to surface abrasion	DIN EN 438-2-10	Number of revolutions Initial abrasion point	≥ 150	≥ 150
Resistance to water vapour	DIN EN 438-2-14	Rating	≥ 1(*)	≥ 1(*)
Resistance to dry heat (160°C)	DIN EN 438-2-16	Rating glossy surface	≥ 3	≥ 3
		Other surfaces	≥ 4	≥ 4
Resistance to humid heat (100°C)	DIN EN 438-2-18	Rating glossy surface	≥ 3	≥ 3
		Other surfaces	≥ 4	≥ 4
Resistance to scratching	DIN EN 438-2-25	Rating glossy surface	≥ 2	≥ 2
		Other surfaces	≥ 3	≥ 3
Resistance to staining	DIN EN 438-2-26	Groups 1 and 2	≥ 5	≥ 5
		Groups 3	≥ 4	≥ 4
Lightfastness (xenon arc lamp)	DIN EN 438-2-27	Grey scale	4 - 5	4 - 5
<b>Fire performance</b>				
Fire performance <sup>3</sup>	DIN EN 13501-1	Building material class	≥6 mm: D-s2, d0 ≥10 mm: C-s2, d0	B-s1, d0
Thermal value	EN ISO 1716	MJ/kg	18 - 20	18 - 20
<b>Health and environment</b>				
Suitable for contact with food	DIN EN 1186 / 13130 / CEN/TS 14234	Contact with food	Suitable	Suitable
Formaldehyde emission	EN 16516	Classification	E1	E1
Emission of volatile organic compounds (VOC)	EN ISO 16000-9	Emission class per French regulation (Décret no. 2011-321)	A (wall scenario) A+ (door scenario)	A (wall scenario) A+ (door scenario)
Environmental protection declaration (EPD) <sup>4</sup>	ISO 14025 / DIN EN 15804	Available	Yes	Yes
Antibacterial effect <sup>5</sup>	JIS Z 2801 ISO 22196	Reduction in %	99.9	99.9

### 3.2 ADDITIONAL TECHNICAL PROPERTIES

<b>Property</b>	<b>Description</b>
Physical state	Solid
Solubility	Insoluble in water, oil, methanol, diethyl ether, n-octanol, acetone
Boiling point	None
Outgassing	None
Melting point	RESOPAL Creative Selection Compact does not melt.
Thermal value	18 - 20 MJ/kg
Heavy metals	RESOPAL Creative Selection Compact contains no toxic compounds based on antimony, barium, cadmium, chromium III, chromium VI, lead, mercury, selenium.

<sup>2</sup> Up to ≥ 90% consistent and clearly visible scratch marks: rating 1 - 1N, rating 2 - 2N, rating 3 - 4N, rating 4 - 6N, rating 5 - > 6N

<sup>3</sup> See details (e.g., classification report / European Union Official Journal); i.a. validity in conjunction with substrate / adhesive system

<sup>4</sup> ICDLI environmental protection declaration (EPD - EPD-ICL-20170154-CBE1-EN) from 13/11/2017

<sup>5</sup> Information\_Sheet\_Biocidal\_Regulation\_EU\_Nr.528\_2012\_RESOPAL\_Compact

Property	Description
Asbestos	RESOPAL Creative Selection Compact contains no particles
Pentachlorophenol (PCP)	RESOPAL Creative Selection Compact contains no particles
RoHS	RESOPAL Creative Selection Compact meets the requirements of EU guidelines 2011/65, 2015/863 RoHS (Restriction of Hazardous Substances). RESOPAL Creative Selection Compact contains none of the following restricted substances: lead, mercury, cadmium, chromium, polybrominated biphenyls (PBB), polybrominated diphenyl ether (PBDE), pentabromodiphenyl ether (PentaBDE), octabromodiphenyl ether (OctaBDE); Bis (2-ethylhexyl) phthalate (DEHP) butyl benzyl phthalate (BBP) dibutyl phthalate (DBP) diisobutyl phthalate (DIBP).
Safety data sheet	RESOPAL Creative Selection Compact boards are not hazardous substances within the meaning of the Chemicals Act / no special labelling or safety data sheet is required.
Stability	RESOPAL Creative Selection Compact is stable and durable; it is neither reactive nor corrosive.
Dangerous reactions	None
Incompatibility	Strong acids or alkaline solutions may damage the surface.
Ignition temperature	approx. 400°C
Flashpoint	None
Thermal decomposition	Possible above 250°C. Toxic gases (e.g., carbon monoxide, carbon dioxide, ammonia) may arise depending on the fire conditions (temperature, oxygen content, etc.).
Flammability	RESOPAL Creative Selection Compact is classified as non-flammable. It only burns in real fires in which open flames are present.
Extinguishing agent	Class A
Dust class	ST-1
Maximum dust concentration	60mg/m <sup>3</sup>
Antistatic	RESOPAL Creative Selection Compact minimises the generation of electrostatic charges through contact changes or friction with other materials. It does not need to be grounded. The surface resistance is 10 <sup>9</sup> - 10 <sup>12</sup> Ohm and the charging capacity pursuant to DIN EN 61340-4-1 is V < 2 kV. Thus, HPL is an antistatic agent.

#### 4. CERTIFICATIONS AND TESTS

Surface	60 / EM / HW	60 / EM / HW
Thickness (mm)	4 - 6 - 8 - 10 - 12	
Quality	standard	flame-retardant
Application	horizontal	horizontal

Property	Test method	Unit		
Fire performance: structural engineering <sup>3</sup>	DIN EN 13501-1	Building material class	≥ 6 mm: D-s2, d0 (CWFT) ≥ 10 mm: C-s2, d0	B-s1, d0
Volatile organic compounds (VOC)	ISO 16000	Emissions class pursuant to French regulation (Décret no. 2011-321)	A (wall scenario) A+ (door scenario)	A (wall scenario) A+ (door scenario)
Formaldehyde emission	EN 16516	Classification	E1	E1
Suitable for contact with food	DIN EN 1186 / 13130 / CEN/TS 14234	Contact with food	Suitable	Suitable
Environmental product declaration (EPD) <sup>4</sup>	ISO 14025 DIN EN 15804	Available	Yes	Yes
Antibacterial effect	JIS Z 2801 ISO 22196	Reduction in %	99,9	99,9
PEFC		Certification	Suitable	Suitable
FSC®		Certification	Yes	Yes

<sup>3</sup> See details (e.g., classification report / European Union Official Journal); i.a. validity in conjunction with substrate / adhesive system

<sup>4</sup> ICDLI environmental protection declaration (EPD - EPD-ICL-20170154-CBE1-EN) from 13/11/2017

## 5. STORAGE AND TRANSPORT

RESOPAL Creative Selection Compact must be transported and stored flat, horizontal, with full-surface contact and flush on a sufficiently large pallet. RESOPAL Creative Selection Compact must be stored in a closed storage area under normal indoor conditions (10-30°C and 40-65% relative humidity) and must be protected against moisture and mechanical damage. The top sheet in a stack must be covered with protective film and weighted down with a (laminated) cover plate.

This protection must also be maintained whenever one or more sheets is removed from the stack. If being stored for a longer time, it is important to ensure that the boards are stored flat, as they may otherwise warp or deform.

If the boards must be stored vertically, we recommend storing in an inclined position at an angle of 80° with full-surface support and a counterbearing on the floor to prevent slipping.

If a protective film is used during transport, it must be removed from the front and the back at the same time, no later than six months after delivery.

RESOPAL Creative Selection Compact is not classified as dangerous goods under transport conditions, and therefore no special labelling is required.

## 6. HANDLING AND MACHINING

Customary safety precautions with regard to dust removal and fire protection must be observed when handling and machining RESOPAL Creative Selection Compact. Because of possible sharp edges, protective gloves should always be worn when handling RESOPAL Creative Selection Compact. Contact with dust from RESOPAL Creative Selection Compact does not cause any particular problems; however, a limited number of people can have an allergic reaction to machining dust of any kind, and thus also to HPL dust.

RESOPAL Creative Selection Compact is available in sizes from 3050x1320 mm or 3050x1300 mm, with or without trim allowance, and depending on the type of decor.

1)

Decors with a repeating pattern allow the pattern to be consistently repeated over the entire application, without interruption.

In these decors, a trim allowance has been included in the width of the board in order to achieve a precise join between boards. These decors are available in 3050x1320 mm with a trim allowance of 20 mm; this results in a usable format of 3050x1300 mm.

For designs or images that span two panels, a left and right panel must be used together.

2)

Decors without a repeating pattern can be applied beside each other without the pattern repeating or being continuous. These decors are available in 3050x1300 mm without trim allowance.

### 6.1 DECORS WITH REPEATING PATTERN AND TRIM ALLOWANCE

Manufacturing tolerances of  $\pm 5$  mm in length and  $\pm 3$  mm in width must be taken into account. In addition, panels can have a perpendicular tolerance of a maximum of 1.5 mm/m. As a result, the digitally printed image may not run parallel to the edges of the panel.

For this reason, the printing files for decors with repeating patterns include a trim allowance of 10 mm on each side. This gives people machining the panels additional leeway for cutting, and ensures that there is enough space to achieve the optimal connection of two panels. The trim allowance is a duplicated pressure zone that is required for aligning panels with a repeating pattern.

This area can vary by +/- 5 mm on each side, and totals a maximum of 20 mm over the entire width.

The edges of panels may have a maximum of 2 mm unprinted area.

First, the cutting zones should be identified and aligned with one another. In order to obtain the final size and shape, the trim allowance is to be cut away from the panel by the person machining the panel.

Due to the manufacturing tolerances above, it is not possible to align repeating patterns on both sides of double-sided decorative RESOPAL Creative Selection Compact panels.

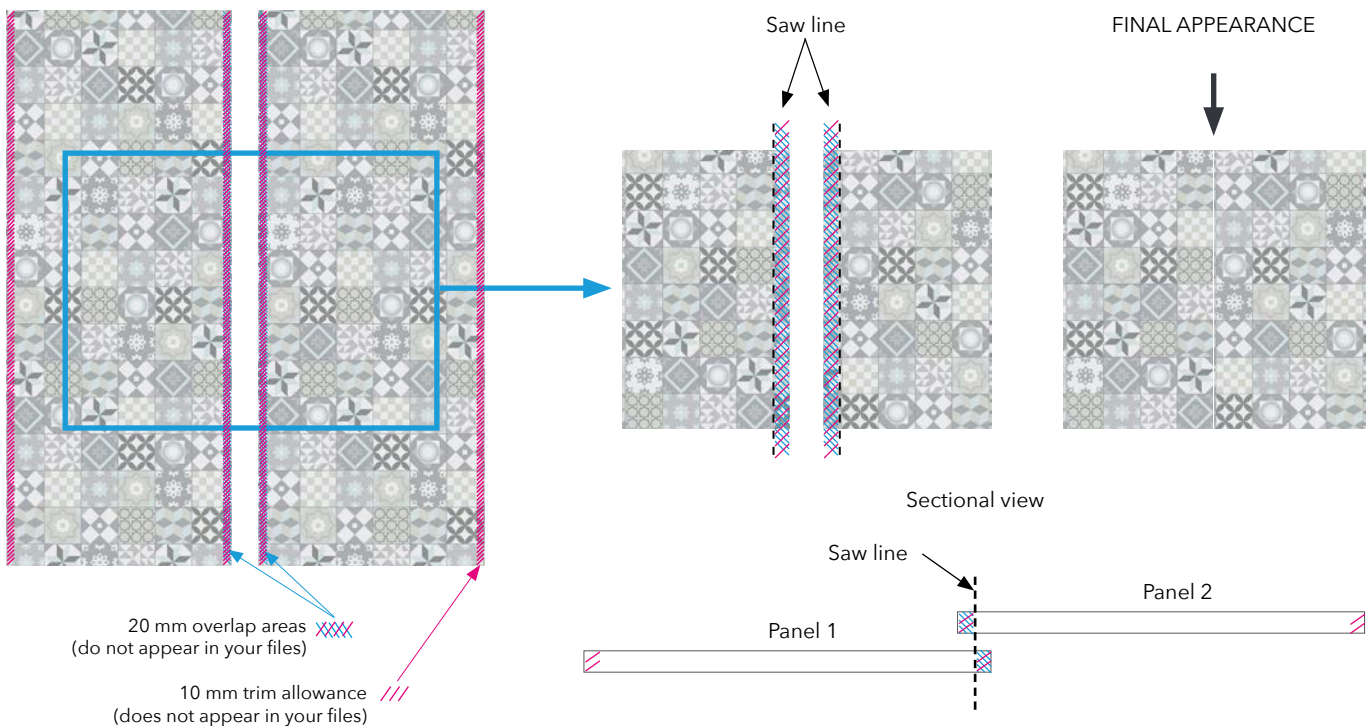
## 6.2 CUTTING AND JOINING OF PANELS WITH TRIM ALLOWANCE

In order to ensure optimal application, special attention must be paid to the cutting and joining of panels with a repeating pattern. The order of the panels for wall covering must be followed, and each panel must be looked at individually. Therefore, the panels must be sawn and processed individually. It is not possible to saw or trim the panels in a stack.

- 1) Compare the decor and overlapping areas in both panels to ensure that the decor is continuous.
- 2) Choose the area to be trimmed and remember that the panels have to be cut from both sides. Pay attention to the right angles, remembering a maximum of 20 mm in total can be trimmed to still obtain a usable width of 1300 mm.
- 3) Draw lines as a guide for the cut.
- 4) If cutting to length is required, select the most suitable area for this.

In order to provide the greatest flexibility when cutting and installing the panels, there are no pre-made cutting marks on the decors. We are unable to deliver cut panels.

More information on the handling and machining of RESOPAL Creative Selection Compact can be found in the technical handbook in chapter 03 (General Handling Recommendations for RESOPAL HPL) and chapter 05 (Handling of RESOPAL Massive), and in the ICDLI technical handbook (Compendium).



## 7. CLEANING AND CARE

RESOPAL Creative Selection Compact is neither corrosive nor does it oxidate. No further surface treatment (e.g., paint or varnish) is required. All decorative RESOPAL Creative Selection Compact surfaces can be cleaned with a mild soap solution. Stubborn marks (e.g., paint) can be removed using organic solvents (e.g. ethanol, acetone).

The surface is resistant to common household cleaning agents and solvents (see resistance data sheet for RESOPAL HPL and RESOPAL Compact).

Do not use abrasive cleaning supplies (e.g., scouring powder, steel wool). Furthermore, pressure cleaners and steam cleaners cannot be used to clean RESOPAL Creative Selection Compact products.

Further information about cleaning and care of RESOPAL Creative Selection Compact can be found in the corresponding data sheets.

## 8. HEALTH, SUSTAINABILITY AND THE ENVIRONMENT

RESOPAL Creative Selection Compact is produced in factories that are EN ISO 14001 and 50001 certified.

RESOPAL Creative Selection Compact is a cured and therefore inert duroplast.

Formaldehyde emissions are within the limit of 0.1 ppm set out in EN16516 (correlates to 0.05 ppm pursuant to EN717-1).

With regard to volatile organic compounds (VOC), the following classification according to the French VOC regulation has been given:

Class A+ (with the test scenario for small areas (e.g., doors) with a loading factor of 0.05 m<sup>2</sup>/m<sup>3</sup>)

Class A (with the test scenario for walls with a loading factor of 1.0 m<sup>2</sup>/m<sup>3</sup>)

RESOPAL Creative Selection Compact can come into direct contact with all foods; no migration into food occurs.

RESOPAL Creative Selection Compact can be produced as a PEFC or FSC® certified product upon request.

All paper used (core paper and decorative paper) comes from controlled sources and meets EUTR Act (EU) No. 995/2010 requirements.

RESOPAL Creative Selection Compact is a product and not a chemical substance, so the REACH ordinance is not applicable. It is, however, important to ensure information is exchanged with raw material suppliers in regard to REACH-relevant components (see REACH ordinance technical data sheet for more information).

The International Committee of the Decorative Laminates Industry's (ICDLI) Environmental Protection Declaration (EPD) can be used for RESOPAL Creative Selection Compact. The entire life cycle (extraction of raw materials, production, transport, use, disposal) is taken into account. These documents provide quantitative, verified and objective information that can be used for certification of sustainable buildings (e.g., Leed, Breeam or DGNB).

## 9. DISPOSAL AND ENERGY RECOVERY

RESOPAL Creative Selection Compact can be disposed of at controlled waste disposal facilities (e.g., landfills) that comply with current national and regional regulations. According to the regulation on the European Waste Catalogue, HPL waste is classified with the code AVV 200301 (mixed municipal waste).

Due to its high thermal value (18-20 MJ/kg), RESOPAL Creative Selection Compact is particularly well-suited for thermal recycling. When completely combusted at 700°C, the boards burn to water, carbon dioxide and nitrogen oxides. Combustion must be in modern, officially approved industrial incineration facilities. The ashes from these incineration processes can be brought to controlled landfills.

RESOPAL Creative Selection Compact boards thus meet the requirements for energy recovery in accordance with § 8 of the German Recycling Management Act.

## 10. AREAS OF APPLICATION

RESOPAL Creative Selection Compact is intended for horizontal and vertical applications in dry, limited-humidity indoor areas. Typical areas of application are:

- Kitchen and office worktops
- Restaurant and hotel tables
- Doors and wall panelling in public spaces

RESOPAL Creative Selection Compact can be used for partition walls, in private bathrooms (in homes, hotels, hospital rooms) and in public restrooms with limited humidity (lavatory facilities in offices, retail establishments, schools and educational institutions).

Mounting directly onto walls (without substructure), e.g., for use as shower panels, and in areas with high humidity such as saunas, steam baths and showers, lavatory facilities in stadiums, swimming pools or campsites, is not recommended.

All information contained in this data sheet is based on the current state of technical knowledge, but does not constitute a guarantee. There is no guarantee regarding suitability for particular uses or applications