

RESOPAL® Bonded Board

PRODUCT DATA SHEET

This product data sheet applies to RESOPAL Bonded Boards (composite panels), consisting e.g., of E1 wood-based materials (chipboard, MDF, fiberboard, plywood) or a gypsum fiberboard, which are coated on both sides with RESOPAL HPL.

1. MATERIAL DESCRIPTION AND COMPOSITION

RESOPAL Bonded Boards consist of substrates e.g., E1 (according EN 16516 and Chemikalien-Verbotsverordnung (CVV)) wood-based materials (chipboards, MDF, fiberboards, plywood) or a gypsum fiberboard which are coated on both sides with RESOPAL HPL. The HPL-panels are usually bonded with adhesives like PVAc or PUR Hotmelt. These components comply with the following standards:

High-pressure laminates (HPL)	EN 438
Wood-based panels	
Chipboard	EN 312
Plywood	EN 636
Fiberboard (MDF, HDF)	EN 622
Gypsum fiberboard	EN 15283-2
Adhesives	
PVAc (exposure group D3/D4)	EN 204
PUR - Hotmelt	



- 1 RESOPAL HPL¹
- 2 Substrate²

¹ For more information on the HPL, see the RESOPAL HPL product data sheet

² For further information on the carrier material, see the corresponding product data sheet

1.1. HPL

The HPL panels are high pressure decorative laminates with a melamine or acrylic surface, which are supplied in sheet form in a variety of sizes, thickness, and surface finishes. HPL basically consists of paper and thermosetting synthetic resin, paper comprising more than 60% of the product. Further information can be found into the corresponding Product Datasheet for RESOPAL HPL.

1.2. Substrate³

Wood based substrates are produced by pressing wood in various forms (fibres, chips, or veneers) with thermosetting bonding agents.

Another type of substrate is gypsum fiberboard in accordance with EN 15283.

The substrate must meet different properties. It must be rigid and has to have a smooth surface. This is an essential prerequisite for good visual appearance. The choice of a suitable adhesive, the amount of the adhesive applied as well as the contact pressure and temperature for bonding also have considerable influence on the appearance and surface of the composite element. Like many other materials, HPL reacts to temperature and humidity fluctuations with dimensional changes. These can be different to those of the substrates and the adhesives and must be considered during processing. The following table lists some materials as examples of what can be used as substrates:

Table 1 Substrates, material types, subgroups

Material type	Subgroup
Chip-based wood boards	Chipboard P2 (flame-retardant), P3
MDF panels	Brown core (standard), black core
Veneer-based wood boards	Plywood (Okoume, poplar, birch)
Composite plastic boards	Polyurethan rigid foam, composite substrate
Mineral substrates	Gypsum fiberboard

1.3. Adhesive

The use of the right adhesive is of particular importance from a technical point of view, but also from an allergology and health point of view. If possible, low-pollutant adhesives should be used (such as dispersion adhesives) that evaporate quickly. If technically necessary, all other adhesives can also be used, but longer evaporation times must then be observed.

The adhesive bond is made from a dispersion adhesive PVAc (polyvinyl acetate) or PUR- (polyurethane) hotmelt adhesive system.

³ HPL Compendium ICDLI

1.4. Substrates of RESOPAL bonded boards

Table 2 Overview of RESOPAL substrates⁴



2. FORMATS

This information is available on our website www.resopal.de/infobook in accordance with our delivery program.

3. AREAS OF APPLICATION

The selection of the right RESOPAL composite element depends primarily on the application and the individual requirements.

Table 3 Typical Applications

	CHIPBOARD EN 312, P2	CHIPBOARD EN 312, P3, MOISTURE RESISTANT	CHIPBOARD EN 312, P2, FLAME RETARDANT	MDF EN 622-5, BROWN CORE FLAME RETARDANT	PLYWOOD EN 636-1, BIRCH, OKOUME, POPLAR	GYPSUM FIBRE BOARD, EN 15283 NORIT
EXAMPLES FOR TYPICAL APPLICATIONS⁵						
Kitchen- and office worktops	Boards for interior fittings (including furniture) for use in dry areas	Boards for non-load-bearing purposes for use in damp areas	Boards for interior fittings (including furniture) for use in dry areas, and the fire behavior flame retardant according to EN 13501-1	Boards for general use and interior finishing (incl. furniture) for use in dry areas	for general purposes for use in dry rooms	Particularly suitable for use in areas where there are requirements for fire protection, sound insulation, thermal insulation, or pane load-bearing capacity
Restaurant- and hotel desks						
Wall cladding in public spaces/interior wall						

⁴ https://www.resopal.de/media/Technical_Resources/de_rp/resopal_traeger_substrates_20220803.pdf

⁵ The examples show typical applications of bonded elements. The application of RESOPAL Bonded Boards depends on several factors (e.g. temperature, relative humidity, changes in climatic conditions, fastening elements, fire behavior requirements). Therefore, the suitability of RESOPAL Bonded Boards for the respective application must be checked in advance. All RESOPAL Bonded Boards are intended for non-load-bearing purposes only.

4. TECHNICAL DATA

4.1 TECHNICAL PROPERTIES⁶ ACCORDING TO EN ISO 13894

Property	TEST METHOD	Unit	CHIPBOARD EN 312, P2	MDF EN 622-5, BROWN CORE	PLYWOOD EN 636-2, BIRCH, OKOUME, POPLAR	GYPSUM FIBER- BOARD EN 15283 NORIT
			CHIPBOARD EN 312, P2, FLAME RETARDANT			
Physical properties, dimensions, and tolerances						
Density	EN 323	kg/m ³	650 ± 10%	760 ± 10%	Birch 600 - 750± 10% Okoume 500 ± 10% Poplar 450 ± 10%	1100 ± 10%
Factory humidity (ex factory)	EN 322	%	5 - 13	4 - 11	8 - 12	5 - 13
Length and width ⁷	EN ISO 13894-1-6.1	mm	±5		±3.5	±5
Edge straightness ⁸	EN ISO 13894-1-6.2	mm/m	±0.5			
Edge squareness ⁸	EN ISO 13894-1-6.3	mm/m	≤2.0			
Thickness ⁹	EN ISO 13894-1-6.4	mm/m	±0.5		Thickness ¹⁰ substrate 18mm +0,94 -1.14	±0.5
Flatness ¹¹	EN ISO 13894-1-7	mm/m	≤ 2.0			
Surface resistance	EN ISO 13894-1-9	MPa	≥1.0			
Perpendicular traction	EN ISO 13894-1-10	MPa	0,2 - 0,35 ¹²			
Mechanical properties						
Resistance to elevated temperatures (short-term exposure)	EN ISO 13894-1-11	After one hour, the test specimens must be removed from the oven and examined immediately afterwards and after storage for one hour at room temperature for changes, e.g. cracking, rippling, blistering, adhesive layer defects or color changes. B. cracks, ripples, bubbles, adhesive layer defects or color changes; the examination must be carried out with normal (corrected if necessary) visual acuity.				
Resistance to increased temperature (long-term exposure, e.g., windowsill)	EN ISO 13894-1-12	Any deformation, blistering, cracking, adhesive layer defects and significant changes in appearance must be recorded as defects.				
Resistance to water vapor	EN ISO 13894-1-13	During the test, slight swelling may occur in the joint and surface area of the chipboard Additional protective measures recommended for composite elements (directly above dishwashers and hobs)				
Protection of the substrate against water vapor (thickness swelling)	EN ISO 13894-1-14	mm	≤0.1			

⁶ The properties listed here apply to the specified substrates

⁷ Panels with saw-cut edges

⁸ The values are given in mm per 1000mm measured length

⁹ Thickness tolerance RESOPAL HPL (thickness ≤1 mm) ±0.1 mm, other thickness tolerances apply for RESOPAL HPL (thickness >1 mm) and alternative core construction

¹⁰ Other values apply for other thicknesses

¹¹ Only valid for symmetrically constructed elements

¹² Depending on substrate thickness/type

Property	TEST METHOD	Unit	CHIPBOARD EN 312, P2 CHIPBOARD EN 312, P2, FLAME RETARDANT CHIPBOARD EN 312, P3, MOISTURE RESISTANT	MDF EN 622-5, BROWN CORE	PLYWOOD EN 636-2, BIRCH, OKOUME, POPLAR	GYPSUM FIBER- BOARD EN 15283 NORIT
Axial pull-out resistance of wood screws (screw holding capacity) for the edge	EN ISO 13894-1-15	N	≥1000			
Axial pull-out resistance of wood screws (screw holding capacity) for the edge	EN ISO 13894-1-15	N	≥500			
Surface impact resistance (method with large sphere)	EN ISO 13894-1-17/18	Minimum drop height 600mm Max. impression diameter mm	≤10			
Resistance to impact by small-diameter ball	EN 438-2-20	N Spring force	≥15			

PROPERTY	TEST METHOD EN 438-2: 2016	UNIT	CHIPBOARD EN 312, P2 CHIPBOARD EN 312, P3, MOISTURE RESISTANT	CHIPBOARD EN 312, P2, FLAME RETARDANT	MDF EN 622-5, BROWN CORE	PLYWOOD EN 636-2, BIRCH, OKUME, POPLAR	GYPSUM FIBRE BOARD, EN 15283 NORIT
Fire behaviour ¹³ (CWFT ¹⁴) Surface/Texture Melamine resin (e.g., #60, #EM, #WH) Building construction	EN 13501-1	Building Material Class	D-s2, d0 (CWFT)	C-s2, d0	C-s1, d0	-	B-s1, d0
Fire behaviour ¹³ Surface/Texture Acrylic resin (#TL/#TS) Building construction	EN 13501-1	Building Material Class	D-s2, d0 ¹⁵	C-s2, d0	-	-	-
Fire behaviour ¹³ (CWFT ¹⁴) Surface/Texture Acrylic resin (#TP) Building construction	EN 13501-1	Building Material Class	D-s2, d2 ¹⁵	C-s2, d2	-	-	-

¹³ Consider details (e.g., Classification report, Official Journal of the European Union); e.g., validity in combination with substrate, adhesive system

¹⁴ CWFT-Certified without further testing - see Official Journal European Union

¹⁵ Expected building material class (no classification report available)

4.2 TECHNICAL PROPERTIES ACCORDING TO EN 438-3

Table 4: Technical properties according to EN 438-3

PROPERTY	TEST METHOD EN 438-2: 2016	UNIT	MELAMINE (HGS/HGF)	TRACELESS (#TS/#TL)	TRACELESS PREMIUM (#TP, BROWN CORE)
Surface properties					
Dirts, spots, etc. Fibers, hairs, scratches	EN 438-2-4	mm ² /m ² mm/m ²		≤ 1.0 ≤ 10	
Resistance to surface wear	EN 438-2-10	Revolutions Initial Point (IP)		≥ 150	
Resistance to water vapour	EN 438-2-14	Rating ¹⁶ Gloss Finish Other Finishes	≥ 3 ≥ 4	≥ 4	≥ 4
Resistance to dry heat (160 °C)	EN 438-2-16	Rating ¹⁶ Gloss Finish Other Finishes	≥ 3 ≥ 4	≥ 3	5
Resistance to wet heat (100 °C)	EN 438-2-18	Rating ¹⁶ Gloss Finish Other Finishes	≥ 3 ≥ 4	≥ 4	5
Resistance to scratching	EN 438-2-25 EN 15186	Rating ¹⁷ Smooth finishes Textured finishes N	≥ 2 ≥ 3 ¹⁸	≥ 3	≥ 4 4 - 6
Resistance to staining	EN 438-2-26	Rating ¹⁶ Groups 1 & 2 Group 3	5 ≥ 4	5 ¹⁹ ≥ 4	5 ¹⁹ ≥ 4
Light fastness	EN 438-2-26	Rating ¹⁶ Grey scale Surface		4 - 5	

HGS: H (Horizontal grade), G (General purpose), S (Standard grade)

HGF: H (Horizontal grade), G (General purpose), F (Flame retardant grade)

HGP: H (Horizontal grade), G (General purpose), P (Postforming)

Additional information regarding product quality (standard/flame-retardant) is also available on our website www.resopal.de/infobook. Further classification reports are also available, e.g., for the RESOPAL Real Metals product,

¹⁶ Rating 5 - no visible change; Rating 4 - slight change of gloss and/or colour, only visible at certain viewing angles; Rating 3 - moderate change of gloss and/or colour; Rating 2 - marked change of gloss and/or colour or surface blistering; Rating 1 - Surface layers delamination.

¹⁷ ≥ 90 % continuous double circle of scratch marks clearly visible, Rating 5 - > 6 N, Rating 4 - 6 N, Rating 3 - 4 N, Rating 2 - 2 N, Rating 1 - 1 N

¹⁸ Included #VE (Soft Velvet)

¹⁹ A longer exposure time of hot liquids (e.g., tea, coffee), strongly staining substances (e.g., red wine, iodine, spices) may leave slight staining on light-colored surfaces. To avoid permanent staining, these stains must be removed immediately.

4.3 ADDITIONAL TECHNICAL PROPERTIES AND SAFETY INFORMATION

Table 5 Only applies to the top layer RESOPAL HPL

PROPERTY	DESCRIPTION
Physical and chemical properties	
Physical state	Solid
Solubility	Insoluble in water, oil, methanol, diethyl ether, n-octanol, acetone
Boiling point	None
Evaporation rate	None
Melting point	RESOPAL HPL does not melt
Calorific value	18-20 MJ/kg
Heavy metals	RESOPAL HPL contains no toxic compounds based on antimony, barium, cadmium, chromium III, chromium VI, lead, mercury, selenium
Bisphenol A (BPA)	RESOPAL HPL contains no components
Asbestos	RESOPAL HPL contains no components
Pentachlorophenol (PCP)	RESOPAL HPL contains no components
RoHS	RESOPAL HPL meets the requirements of EU guidelines 2011/65, 2015/863 RoHS (Restriction of Hazardous Substances). RESOPAL HPL 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)
BPR - Biocidal Product Regulation	RESOPAL HPL complies with Biocidal Regulation EU No. 528/2012
Safety data sheet	RESOPAL HPL is not hazardous substances within the meaning of the Chemicals Act/no special labeling or safety data sheet is required.
Stability and reactivity information	
Stability	RESOPAL HPL is stable and durable; it is neither reactive nor corrosive
Hazardous/dangerous reactions	None
Incompatibility	Strong acids or alkaline solutions may damage the surface
Fire and explosion protection data	
Ignition temperature	approx. 400 °C
Flashpoint	None
Thermal decomposition	Possible above 250 °C. Toxic gases (e.g. carbon monoxide, ammonia) may arise depending on the fire conditions (temperature, oxygen content, etc.)
Smoke and toxicity	RESOPAL HPL can be used in areas where smoke and toxicity is controlled (e.g. railway construction)
Flammability	RESOPAL HPL is classified as non-flammable. It only burns in real fires in which open flames are present.
Extinguishing agent	Class A
Explosion hazards	Dust class ST-1
Explosion limits	Maximum dust concentration 60 mg/m ³
Electrostatic behaviour	RESOPAL HPL minimizes the generation of charges due to contact separation or friction with another material. It does not need to be grounded. The surface resistance is between 10 ⁹ -10 ¹² Ohm and the chargeability is V < 2 kV according to EN 61340-4-1, making RESOPAL HPL an antistatic material.

5. CERTIFICATIONS AND TESTS

Table 6: Certifications and test reports

PROPERTY	TEST METHOD EN 438-2: 2016	UNIT	CHIPBOARD EN 312, P2 CHIPBOARD EN 312, P3, MOISTURE RESISTANT	CHIPBOARD EN 312, P2, FLAME RETARDENT	PLYWOOD EN 636-2, BIRCH, OKUME, POPLAR	MDF EN 622-5, BROWN CORE FLAME RETARDENT	GYPSUM FIBRE BOARD, EN 15283, NORIT
Fire behaviour							
Fire behaviour ¹³ (CWFT ¹⁴) Surface/Texture Melamine resin (e.g., #60, #EM, #WH) Building construction	EN 13501-1	Building Material Class	D-s2, d0 (CWFT)	C-s2, d0	-	C-s1, d0	B-s1, d0
Fire behaviour ¹³ Surface/Texture Acrylic resin (#TL/#TS) Building construction	EN 13501-1	Building Material Class	D-s2, d0 ¹⁵	C-s2, d0	-	-	-
Fire behaviour ¹³ (CWFT ¹⁴) Surface/Texture Acrylic resin (#TP) Building construction	EN 13501-1	Building Material Class	D-s2, d2 ¹⁵	C-s2, d2	-	-	-
Emission VOC (Volatile organic compounds) Surface/Texture Melamine (HGS/HGF) ²⁰ Traceless (#TS/#TS) Traceless Premium (#TP)	ISO 16000-9 (Emission class according to French regu- lation (Décret no 2011-321)	Emis- sion class	available	-	-	-	-
Emission formaldehyde Surface/Texture Melamine (HGS/HGF) ²⁰ Traceless (#TS/#TS) Traceless Premium (#TP)	EN 16516	Class (ppm)	E1 (≤ 0.1)	-	-	-	-

²⁰ Only chipboard EN 312, P2

PROPERTY	TEST METHOD EN 438-2: 2016	UNIT	CHIPBOARD EN 312, P2	CHIPBOARD EN 312, P2, FLAME RETARDENT	PLYWOOD EN 636-2, BIRCH, OKUME, POPLAR	MDF EN 622-5, BROWN CORE FLAME RETARDENT	GYPSUM FIBRE BOARD, EN 15283, NORIT
			CHIPBOARD EN 312, P3, MOISTURE RESISTANT				
DE-UZ 76 (Blue Angel)							
Surface/Texture Melamine (HGS/HGF) ²⁰ Traceless (#TS/#TS) Traceless Premium (#TP)	EN16516 ISO 16000 Blue Angel (DE-UZ 76)	Con- clusion	Pass ²¹ - (-) ²²	- - -	- - -	- - -	- - -
Declaration of harmlessness food safe							
Surface/Texture Melamine (HGS/HGF) Traceless (#TS/#TS) Traceless Premium (#TP)	EN 1186 EN 13130 CEN/ TS 14234	Con- tact with food	Yes - Yes	Yes - Yes	Yes - Yes	Yes - Yes	Yes - Yes
Antibacterial effect ²³							
Surface/Texture Melamine (HGS/HGF) Traceless (#TS/#TS) Traceless Premium (#TP)	JIS Z 2801 ISO 22196	Re- duction in %	99.9 - 99.9	99.9 - 99.9	99.9 - 99.9	99.9 - 99.9	99.9 - 99.9
Decontamination							
Surface/Texture Melamine (HGS/HGF) Traceless (#TS/#TS) Traceless Premium (#TP)	DIN 25415:2012 ISO 8690:2020	Rating	Excellent - -	Excellent - -	Excellent - -	Excellent - -	Excellent - -
PEFC ²⁴							
Surface/Texture Melamine (HGS/HGF) Traceless (#TS/#TL) Traceless Premium (#TP)		Certifi- cation	Upon request	Upon request	Upon request	Upon request	Upon request

²¹ Pass emission requirements according to DE-UZ 76 ("low emission panel materials for interior design") are met

²² Test report for single RESOPAL Traceless Premium available (test without carrier plate)

²³ Information Sheet Biocidal Regulation EU Nr. 528/2012

²⁴ Specify with order

PROPERTY	TEST METHOD EN 438-2: 2016	UNIT	CHIPBOARD EN 312, P2 CHIPBOARD EN 312, P3, MOISTURE RESISTANT	CHIPBOARD EN 312, P2, FLAME RETARDENT	PLYWOOD EN 636-2, BIRCH, OKUME, POPLAR	MDF EN 622-5, BROWN CORE FLAME RETARDENT	GYPSUM FIBRE BOARD, EN 15283, NORIT
FSC® ²⁴ Surface/Texture Melamine (HGS/HGF) Traceless (#TS/#TS) Traceless Premium (#TP)		Certifi- cation	Upon request	Upon request	Upon request	Upon request	Upon request

6. TRANSPORT AND STORAGE

RESOPAL Bonded Boards panels must be transported and stored flat, horizontal, with full-surface contact and on a sufficiently large pallet. RESOPAL Bonded Boards panels are not dangerous goods as defined by transport regulations, therefore labeling is not required.

Panels must be stored in a closed storage area under normal indoor conditions (10-30 °C and 40-65 % relative humidity), and protected against moisture and mechanical damage, with suitable protection. The protection placed on top of the pallet must be maintained whenever panels are removed from the stack. If the panels are stored for a long period of time, ensure flat storage, and place a panel on top to weigh on the laminates, otherwise the panels may warp or deform. In case of vertical storage, we recommend an inclined position at 80° with full-surface support and a counter bearing on the floor to prevent slipping.

If the protective film remains on the surface during processing, the processor is responsible for carrying out a preliminary machinability test. This does not dispense the customer in any way from a prior incoming goods inspection. The shelf life of the protective film is a maximum of 6 months after the date of delivery.

7. HANDLING AND MACHINING

Before starting, please inspect the product for damage and defects between panels prior to cutting or installation (including color and texture) and ensure that the production direction is considered. The product direction has an influence on the dimensional change as well as on mechanical strength and can have an influence on the appearance due to the reflection of light.

Due to the product-specific differences in production technologies (e.g., RESOPAL Compact, RESOPAL HPL or RESOPAL Traceless Faced Board etc.), even identical decor, structure or core board combinations can result in slight optical and tactile deviations across different product groups and formats.

The usual safety regulations regarding dust removal and fire protection must be observed when processing RESOPAL Bonded Boards panels. Due to possible sharp edges, protective gloves should always be worn when handling RESOPAL Bonded Boards panels. Contact with dust does not cause any issues; nevertheless, there are a limited number of people who may have an allergic reaction to processing dust of all kinds (and therefore also to bonded board dust).

RESOPAL Bonded Boards panels are wood/cellulose-based products (substrate wood-based material), so the dimensions constantly adapt to the climatic environmental conditions. The product can be easily processed with woodworking machines²⁵.

If RESOPAL Bonded Boards are produced with the RESOPAL HPL, deep black core or the RESOPAL Traceless Premium texture, this can lead to a certain degree of increased tool wear during processing. For a suitable tool recommendation for your individual processing, please contact the tool manufacturer directly.

When RESOPAL Bonded Boards panels (type BTS/deep black HGS) are installed in combination with standard phenolic RESOPAL HPL/RESOPAL MFB, it may be necessary to ensure that there is no colour variation between the two products. The HPL is flush with the edge of the core board (tolerance -0/+2mm). The overhang may deviate from the specified tolerance for special dimensions.

Further information on tolerances can be found in the RESOPAL HPL tolerances technical data sheet.

7.1 SYMMETRICAL I NON-SYMMETRICAL STRUCTURE

In case of non-self-supporting or structurally supported RESOPAL Bonded Boards (e.g., wall cladding) under normal conditions (18-25°C and 40-65 % relative humidity), asymmetrical composite elements can be produced by using another HPL panel of the same type of core and thickness. It is recommended to only use asymmetrical elements if the substrate material has a thickness of ≥ 18 mm.

The application of non-symmetrical elements is the responsibility of the processor. For non-symmetrical composition, we recommend preliminary tests to check feasibility regarding the respective application.

The protective film must be removed simultaneously on both sides.

More information on the handling and machining of RESOPAL Bonded Boards can be found in the technical handbook in chapter General Processing recommendations for RESOPAL HPL.

7.2 EDGE HANDLING²⁶

Thermosetting plastics edging can be postformed. If the rear side of the edging is treated with hot melt adhesives, bonding agent or a self-adhesives coating, edging can be processed with simple tools and devices.

HPL edging is made of the same materials as the element surface and can offer an identical or contrasting colour and texture. For better adhesion, melamine edging is sanded at the rear or supplied with a special, unsanded rear side without resin. Single-layer edging can be placed around lightly rounded narrow element surfaces, even without heat application (soft forming process). Double-layer edging consists of an impregnated base paper and a painted decorative paper (finish film) which are joined with different binding agents.

²⁵ Note the type of substrate - the combination of substrate with the respective RESOPAL HPL may mean that different cutting materials (e.g., carbide, diamond), cutting edge geometries and individual adaptation to the machine are required - for more information, please contact the respective tool manufacturer.

²⁶ HPL Compendium

Thermoplastics edging made of plastics such PVC, ABS, PP, PMMA are available in a variety of designs. These are up to 10mm thick and can have a corresponding treatment on the rear side for adhesion (e.g., primer application).

Solid wood edging can be used for design effects and there are virtually no limits for profiling and processing options.

Primer edging consists of resin-saturated paper sheets, are cured, and have no finished surface. A coat of paint or varnish is usually applied after the edging has been applied.

It is also possible, however, to use aluminum edging tape paint coats, molded polyurethane edging or premade cover profiles (e.g., made of metal).

Here is an exemplary overview of edge banding material suppliers:

Rudolf Ostermann GmbH

https://www.ostermann.eu/en_GB

REHAU Industries SE & Co.KG

https://designguide.rehau.com/DE_de

Hranipex Limited

<https://www.hranipex.co.uk/en/edges/>

SURTECO GmbH

<https://www.surteco.com/en/products/edge-band/>

8. CLEANING AND CARE

RESOPAL Bonded Bords surfaces do not require special care due to their homogenic and resistant surface, even too many substances/chemicals²⁷. Surfaces and edges require no further treatment (e.g., with lacquers, paints, oils, waxes etc.), as they are neither corrosive nor oxidized.

For residue-free cleaning of RESOPAL Bonded Bords surfaces, these four steps must be followed:

- 01 Choose the appropriate cleaning aids (cloth/sponge/brush) - depending on the structure
Choose the appropriate cleaning agent/solvent - depending on dirt residues
- 02 Cleaning of the surface with the appropriate cleaning aids and cleaning agents/solvents
- 03 Rinse of all cleaning agent/solvent with warm water
- 04 Dry the surface with a soft cloth after cleaning

Clean the entire surface without too much "pressure" to avoid polish marks.

Due to the microstructure of Traceless Premium, it is important to regularly clean the surface according to the above instruction and clean with warm water to avoid the accumulation of dirt and residue of cleaning agent/solvent into the tight structure folding.

In the case of stubborn stains on RESOPAL surfaces with a deep structure or a narrow structural fold (e.g., #TP/#TB), the dirt can be removed using a damp melamine sponge or cloth with the

²⁷ Data Sheet Resistance RESOPAL HPL, Data Sheet Resistance to Disinfectant RESOPAL HPL

appropriate fiber (e.g., JEMAKO²⁸ or similar). Other stubborn stains (e.g., varnish) can be removed with organic solvents (e.g., ethanol, isopropanol, acetone, etc.).

Abrasive cleaning aids (e.g., scouring powder, steel wool) must not be used, as these alter the surfaces. At the beginning carry out cleaning tests with each cleaning agent/solvent on non-visible areas.

Strongly staining substances (e.g., mustard, curcuma etc.) may leave slight stains on the surface of RESOPAL Bonded Boards panels. To avoid permanent staining these stains must be removed immediately¹⁹.

The visual perception of traces of daily use (e.g., gloss deviations, dirt, and grease stains etc.) are influenced by the decor and surface texture. The traces of use are more visible on smooth surfaces and become even more visible in combination with dark decors.

Due to the surface hardness of Traceless Premium, it is possible to remove "traces of daily use"²⁹ with the help of a microfiber cloth or a melamine sponge (magic sponge).

For further information, please refer to the technical data sheet on cleaning and care of RESOPAL melamine and acrylic surfaces.

9. SUSTAINABILITY AND ENVIRONMENT

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

RESOPAL HPL are a cured, and therefore inert, duroplast. The formaldehyde emission complies with the limit value of 0.1 ppm according to EN16516 (equivalent to 0.05 ppm according EN717-1) and according to German requirements (Chemikalienverbotsverordnung).

Furthermore, the emissions of volatile organic compounds (VOC) are so low that, depending on the test scenario, the following classifications according to the French VOC regulation have been given by Eurofins test reports:

Class A for melamine surface/texture, phenolic core (RESOPAL HPL)
(with the test scenario for walls with a loading factor of 1.0 m²/m³)

RESOPAL Bonded Boards panels³⁰ are suitable for direct contact with all foodstuffs and can be used in food processing.

The Environmental Product Declaration³⁰ (EPD) outlines HPL's excellent environmental properties. Using clearly defined parameters, it provides quantitative, verified, and objective information about the effects of HPL on the environment and could be used for sustainable building certification. (e.g., DGNB, LEED, BREEAM). The entire lifecycle of HPL (raw material extraction, production, transport, use, disposal) is taken into consideration.

²⁸ Data Sheet Cleaning and care introduction tested cleaners

²⁹ Traces of daily use are only superficial and visual changes (no scratches) that occur due to daily use, wear, and tear, aging or use under normal conditions. Scratches, which are deeper in the structure, caused by abrasive agents, pointed or sharp objects, are irreversible damage to the surface RESOPAL Traceless Premium.

³⁰ surface melamine/Traceless Premium

RESOPAL Bonded Boards (wood-based substrates) panels can be offered as a PEFC or FSC® certified product on request. In addition, all the paper used (core paper and decorative paper) comes from uncontroversial or controlled sources and meets the requirements of EUTR Regulation (EU) No. 995/2010. According to International Standard ISO 14021-2016, the RESOPAL Bonded Board (HPL thickness 0.8 mm standard quality both sides/substrate chipboard thickness 18mm) contain 75% of “post-consumer” recycled wood and paper.

RESOPAL Bonded Boards panels are articles and not a chemical substance, therefore the REACH regulation is not applicable. However, it is important to ensure the exchange of information between Resopal and the raw material suppliers regarding REACH-relevant components (for more information, please refer to the REACH statement). We hereby confirm that no substance from the Candidate List is used in our above-mentioned product in a quantity requiring information ($\geq 0,1\%$ w/w) and that we comply with the requirements of Annexes XIV and XVII of the REACH Regulation.

10. DISPOSAL AND ENERGY RECOVERY

RESOPAL Bonded Boards panels can be disposed of at controlled waste disposal facilities (e.g., landfills) that comply with the applicable national and regional regulations. According to the European Waste List Regulation, HPL/Compact waste is classified with code 030105 (wood wastes) or 200301 (mixed municipal waste).

11. OVERVIEW OF TECHNICAL DOCUMENTS

General

Resopal Brochure INFOBOOK
 Technical Manual - General Processing Recommendations for RESOPAL HPL
 HPL Compendium

Certifications and test reports

Declaration of Conformity RoHS
 Classification Report EN 13501-1; C-s2, d2
 Test Report VOC Indoor Air Comfort Gold A
 Attestation RAL DE-UZ 76 Blue Angel
 Expert opinion antibacterial efficiency ISO 22196 JIS Z2801
 Information sheet biocidal regulation
 Certificate of Compliance ISEGA (contact with food harmless)

Cleaning and Care

Data Sheet cleaning and care
 Data Sheet Cleaning and care instructions tested cleaners
 Data Sheet Resistance to Disinfectant RESOPAL HPL
 Resistance data sheet
 Disinfectant resistance data sheet
 Technical manual - RESOPAL for chem. Stress and high hyg. requirements

Sustainability and environmental

Certificate PEFC
 Certificate FSC®
 Statement recycled ratio ISO 14021
 Certificate EN ISO 9001
 Certificate EN ISO 14001
 Certificate EN ISO 50001
 Regulation REACH
 Customer information on melamine as SVHC substance

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