

# RESOPAL® BONDED BOARDS

## PRODUCT DATA SHEET

This information describes the composition of RESOPAL Bonded Boards and gives advice for their handling, processing, use, and disposal. Such Elements are used as kitchen worktops, kitchen door fronts, office desktops, restaurant tables, wall panels and windowsills. RESOPAL Bonded Boards are not classified as hazardous substances and therefore they do not require a special marking nor a description by a safety data sheet.

### 1. Description and composition

For the purpose of this product data sheet, RESOPAL Bonded Boards are defined as composite boards consisting of E1 quality wood based substrates (chipboards, plywood, fibreboards and MDF) faced on one or both sides with HPL, bonded normally with PVAc or amino resin adhesives.

The components must comply with the following standards.

High pressure laminates (HPL)	EN 438
Wood based substrates	
Chipboard	EN 312
Plywood	EN 636
Fibreboard	EN 622-1
MDF	EN 622-5
Adhesives	EN 204

#### 1.1 The decorative surfacing material - RESOPAL® HPL

The laminates referred to are melamine surfaced high pressure decorative laminates (HPL), supplied in sheet form in a variety of sizes, thickness and surface finishes. Laminates basically consist of paper and thermosetting synthetic resin, paper comprising more than 60 % of the product.

For further information see the corresponding Product Data Sheet for RESOPAL HPL.

#### 1.2 The substrate

Wood based substrates are produced by pressing wood in various forms (fibres, chips or veneers) with thermosetting bonding agents. They comprise a quality with a minimum formaldehyde emission potential (measured according to EN 120), meeting the requirements of national regulations, and are therefore officially accepted for indoor use.

#### 1.3 The adhesive

Normally the HPL is bonded to the substrate using water based PVAc or amino resin adhesives forming an inert glue line. Other types of glues may also be used; in such cases please consult the instructions given by adhesive supplier. For further information see ICDLI technical leaflet gluing table May, 2008.

## 2. Storage and Transportation

Storage and transportation should be carried out in accordance with the manufacturer's recommendations; no special precautions need to be taken.

For transportation, RESOPAL Bonded Boards are classified as a non-hazardous product; no labelling is required.

## 3. Handling and Machining of HPL Elements

The usual safety requirements of fabrication and machining should be observed when handling RESOPAL Bonded Boards, including the correct choice of tools.

Because of the possibility of sharp edges protective gloves should always be worn when handling HPL Elements.

The contact with dust from RESOPAL Bonded Boards does not present any special problems, however a small percentage of personnel may be sensitive or even allergic to machining dust in general.

Exposure to inhalation of wood dust must be controlled in accordance with limits specified in the national regulations. Work areas should be well ventilated.

## 4. Environmental and Health Aspects in Use

The decorative surfaces of HPL laminated elements are cured and therefore chemically inert.

HPL formaldehyde emission level is far below the limit for wood based materials. Due to their very low permeability, HPL bonded to wood based substrates act as a barrier against possible formaldehyde emissions coming from the substrates.

There is no migration affecting food and, consequently, the HPL surface is approved for contact with foodstuffs.

The decorative surfaces are resistant to common household solvents and chemicals, and have therefore been used for many years in applications where cleanliness and hygiene are important.

The non-porous RESOPAL HPL surface is easy to disinfect with hot water, steam and common types of disinfectants used in hospitals and other commercial facilities.

RESOPAL Bonded Boards is an article and not a chemical substance and therefore REACH does not apply. Never the less it is important to ensure an information exchange with the raw material suppliers on REACH relevant substance properties.

## 5. Maintenance

As HPL surfaces do not suffer from corrosion and oxidation, they do not need any further surface protection (lacquers or paints).

## 6. RESOPAL® Bonded Boards in Fire Situations

As wooden materials are used as substrates RESOPAL Bonded Boards have fire characteristics similar to other wood based products. For their use as building materials they must be classified according to national fire performance regulations.

(Euroklasse D-s2, d0\* (wood based substrates according DIN EN 13986, thickness  $\geq 12\text{mm}$ , density  $\geq 600\text{kg/m}^3$ )

RESOPAL Bonded Boards, consisting of flame retardant chipboard and flame retardant HPL, are also available as flame retardant (RESOPAL® Bonded Boards F, Euroklasse C-s2, d0\* bzw. B-s1, d0\*, for details see classification report).

\*all data on the building material class refer to HPL with melamine resin surface

Due to incomplete burning, as with many organic materials, hazardous substances are to be found in the smoke.

In dealing with fires in which RESOPAL Bonded Boards are involved the same fire fighting techniques should be employed as with other wood based building materials.

## 7. Energy Recovery

On account of their high calorific value (15 - 18 MJ/kg)\* HPL Elements are ideal for thermal recycling. When burnt completely, they produce water, carbon dioxide and oxides of nitrogen, similar to the burning process of any other organic wood based materials. Therefore HPL Elements comply e.g. with paragraph 6 of the economic law of circular flow (Kreislaufwirtschaftsgesetz).

Well controlled burning processes are achieved in modern, officially approved industrial incinerators. Ashes of this process can be brought to controlled waste disposal sites.

## 8. Waste Disposal

HPL Elements can be brought to controlled waste disposal sites according to current national and/or regional regulations.

## 9. Technical Data

### 9.1 Physical/chemical characteristics

9.1.1 Physical state	Solid sheets
9.1.2 Density	$\geq 0,6 \text{ g/cm}^3$
9.1.3 Solubility	Insoluble in water, oil, methanol, diethyl ether, n-octanol, acetone
9.1.4 Melting point	HPL do not melt
9.1.5 Calorific value	15 - 18 MJ/kg
9.1.6 Heavy Metals	RESOPAL Bonded Boards do not contain toxic compounds of antimony, Heavy metals, barium cadmium, chromiumIII, chromiumVI, lead, mercury, selenium.

\* For comparison: Calorific value of fuel oil: 39 - 42 MJ/kg, of hard coal: 28 - 31 MJ/kg

## 9.2 Stability and reactivity data

9.2.1 Stability	RESOPAL Bonded Boards are stable: they are not considered to be reactive or corrosive.
9.2.2 Hazardous reactions	None
9.2.3 Material incompatibility	Strong acids or alkaline solutions will stain the surface

## 9.3 Fire and explosion data

9.3.1 Ignition temperature	Approx. 330 °C
9.3.2 Flash point	None
9.3.3 Auto-ignition	None
9.3.4 Thermal decomposition	Possible above 160 °C. Like wood, toxic gases may be emitted, e.g. carbon monoxide, carbon dioxide, ammonia, depending upon the burning conditions (temperature, amount of oxygen, etc.).
9.3.5 Flammability	RESOPAL Bonded Boards are not considered to be flammable. They will burn only in a fire situation, in presence of open flames.
9.3.6 Extinguishing media	RESOPAL Bonded Boards are considered as Class A combustible material. Carbon dioxide, water spray, dry chemical foam can be used to extinguish flames. Water dampens and prevents rekindling. Wear self breathing apparatus and fire protective clothing.
9.3.7 Explosion hazards	RESOPAL Bonded Boards machining, sawing, sanding and routing produce dust. Safety precautions and adequate ventilation must be observed to avoid airborne dust concentration.
9.3.8 Explosion limits	Dust levels should be kept below 60 mg/m <sup>3</sup>
9.3.9 Protection against	In the case of fire HPL Elements shall be treated as wood based explosion and fire materials.

## 9.4 Electrostatic behaviour

It minimizes the generation of charge by contact-separation or rubbing with another material. It does not need to be earthed. HPL surface resistivity is between  $10^7 - 10^{12}$  ohms and a chargeability of  $V \leq 2$  kV according to CEI IEC 61340-4-1 so that HPL are considered as antistatic material.

## 9.5 Storage and transport

RESOPAL Bonded Boards are classified as non-hazardous for transportation purposes and there are no specific requirements.

## 9.6 Machining

Use gloves to protect from sharp edges and safety glasses to prevent eyes injury. No special working equipment is necessary, except protections to minimise dust exposure in case of sheet machining.

## 9.7 Disposal considerations

Waste material should be handled according to local regulations. Burning is permitted in approved industrial incinerators.

## 9.8 Health information

RESOPAL Bonded Boards are not considered to be dangerous for humans and animals. There is no evidence of toxicological effects and eco-toxicity. HPL surfaces are physiologically safe and approved for use in contact with foodstuffs according to EN 1186.

### 9.8.1 Working areas

General dust regulations are applicable.

### 9.8.2 Formaldehyde emission

Class E1  
≤ 0,1 ppm according to DIN EN 16516

All information is based on the current state of technical knowledge, but it does not constitute any form of guarantee. It is the personal responsibility of the user of the products described in this information leaflet to comply with the appropriate laws and regulations.