HPL Technical Data

Wood at its best

HPL&MORE

Technical Data

This section of the **HPL** Package contains crucial technical data, useful for everyday application of **HPL** SWISS KRONO. A summary of information for everyday use, such as: product parameters, storage conditions, or cleaning and maintenance methods.

1 — Structure

HPL laminates are produced in sheets or rolls. The upside of each sheet has a decorative layer – unicolour, imitating wood or stone, or a whimsical pattern.

The underneath is pre-polished and prepared for gluing or joining with a carrier board.

HPL contains several layers:

Each layer is made of a different kind of paper, prepared and produced in a different way.

1. **OVERLAY PROTECTIVE LAYER**
   top, invisible layer, special impregnated paper containing corundum. Due to the content of corundum, **HPL** possesses the required resistance to wear and scratches.

2. **DECORATIVE LAYER**
   printed paper impregnated with melamine resin. The pattern may be word-like, stone, whimsical or unicolour.

3. **CORE PAPER**
   paper of the highest degree of hardness, impregnated with phenol resin.

HPL
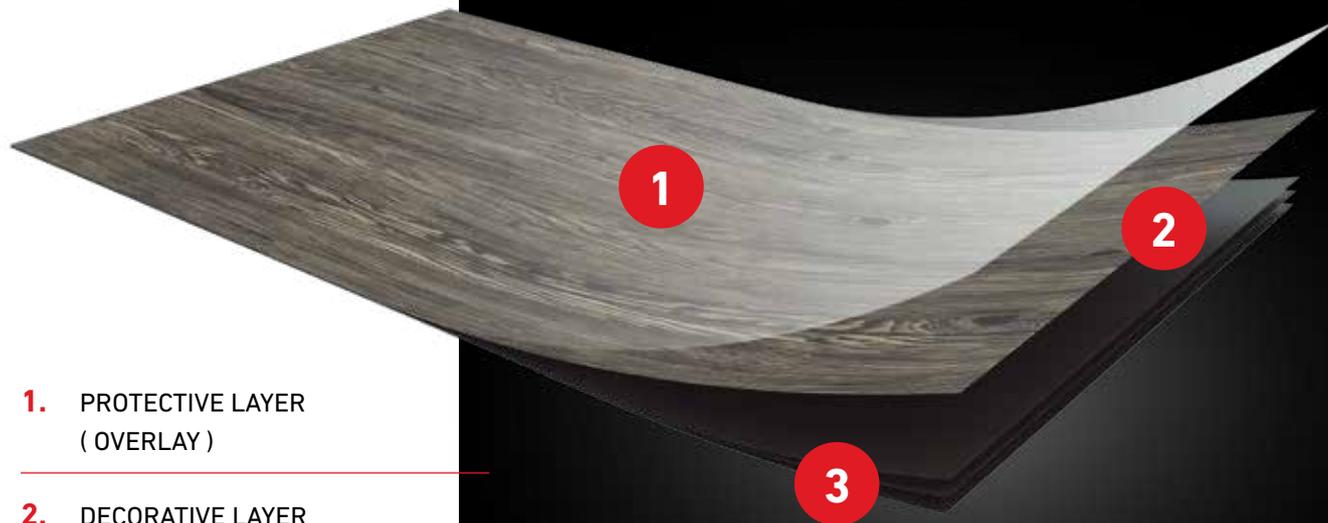
1. **PROTECTIVE LAYER (OVERLAY)**

2. **DECORATIVE LAYER**

3. **CORE PAPER**

2 — Storing and transport

- **HPL** SWISS KRONO should be stacked and stored on a flat, firm, and stable surface.

- Storage surface should be bigger than laminate sheet.

- Top, last sheet of the stack should be placed with the decorative layer on the bottom and covered with covering panel over the entire surface.

- Between sheets in the stack there should be no dirt that might scratch the laminate surface.

- Individual sheets may be rolled up, decorative side facing inwards.

- **HPL** should be stored in closed and roofed rooms, protected from humidity.

- Caution should be exercised during moving and transport of laminate sheets to avoid damaging them.

CASE

COVERING PANEL

HPL SWISS KRONO SHEETS
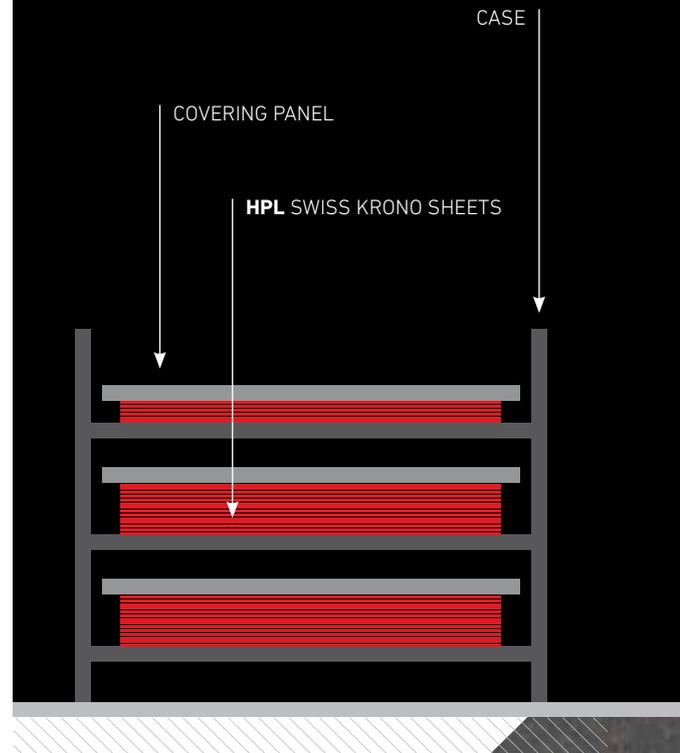
3 — Room conditions during **HPL** laminates processing

Room humidity and temperature have a crucial influence on **HPL** laminate linear dimension changes.

Optimum conditions:
Temperature: 18-22°C
Air humidity: 50-60%.

Note: Storage and room conditions during processing have a direct influence on **HPL** SWISS KRONO laminates gluing and processing results.

Temperature
18-22°C

Humidity
50-60%
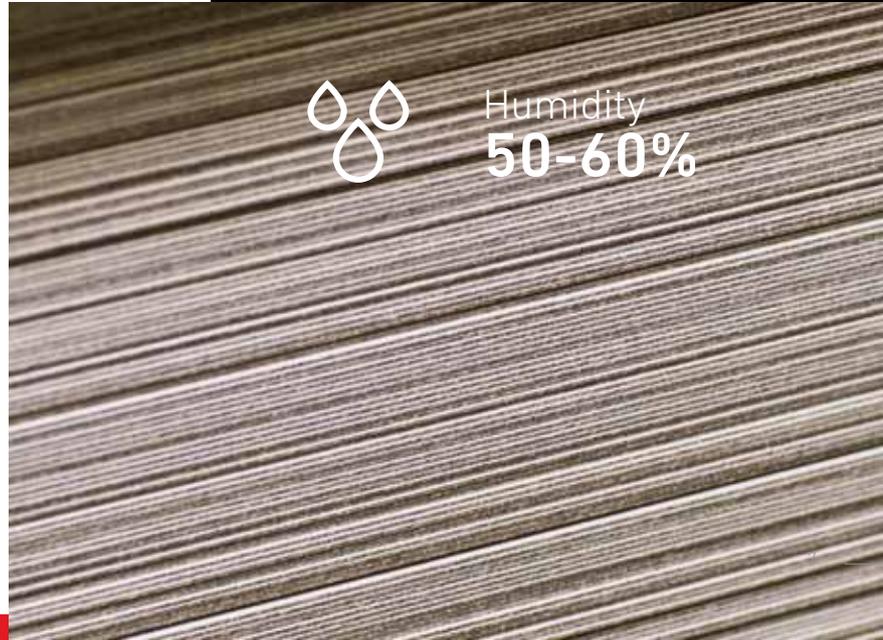
4 — Processing

The top surface of **HPL** SWISS KRONO laminate is made of high-quality melamine resins, thanks to which it is relatively firm.

HPL SWISS KRONO laminate processing should be performed on a stable, flat, even surface.

Laminate should be placed with decorative side up. Do not let laminate vibrate or tremble. Sharpness and proper movement of tools are crucial.

Decorative side cracks, breaks, or bumps result from inappropriate processing or the wrong tools.

Use standard carpenter's tools for cutting, such as circular bench saws, buzz saws, and jigsaws. Remember to follow the saw manufacturer's instructions.

Good quality of the processed edge depends on:

- teeth shape
- teeth number
- cutting speed
- feed speed

HPL formats available from the warehouse:
- 3050 x 1320 x 0,8 mm
  (decors matched to laminated boards)
- 3050/4100 x 1300-1320 x 0,6 mm
  (decors and formats analogical to kitchen
  contours collection)

HPL formats available on request:
- Width: 900 – 1320 mm, **2070 mm**
- Length: 1800 – 5600 mm
- Thickness: 0,15 – 1,2 mm

Packaging:
- In rolls (up to 0,6 mm thickness)
- Laminates for diagonal and horizontal use

Special offer:
- **HPL** Stop Fire
- **HPL** with antibacterial covering
- **HPL** ANTI FINGER TOUCH

HPL Swiss Krono
laminate cutting

5 — Gluing **HPL** SWISS KRONO

Decorative **HPL** SWISS KRONO laminates may be used in a variety of ways by gluing them to carrier wood-derived materials.

When making combined elements out of **HPL** SWISS KRONO and carrier materials, it is crucial to use proper gluing systems matched to the place of use of the finished product.

Before gluing, clean both sides of the laminate and the carrier material thoroughly. All, even the smallest smudges and stains must be removed.

During gluing, follow all adhesive manufacturer recommendations on both adhesive layer application and proper stress.

The following kinds of adhesives are appropriate for wood-derived materials:

Dispersive adhesive
e.g. PVAC = white glue

Condensing adhesive
e.g. urea-formaldehyde/melamine, resorcinol, phenol resins

Contact adhesives
e.g. neoprene adhesives

Reactive adhesives
e.g. epoxy, unsaturated polyesters, polyurethane adhesives

Hot-melt adhesives
e.g. polyurethane hot-melt adhesives

Adhesives	Temperature resistance	Gluing method	Note
Dispersive adhesive			
PVAC	from -20 to 100 °C	manual, with hand roller/spatula or machine, with roller, hot or cold forging	screw clamp or stationary press
Two-ingredient PVAC			
Condensing resin			
Urea-formaldehyde resin	from -20 to 150 °C	manual, with hand roller/spatula or machine, with roller, hot forging	stationary press with heat source
Urea-melamine resin			
Phenol, resorcinol resin			
Contact adhesives			
without hardeners	from -20 to 70 °C	manual, with hand roller/brush, adhesive application on both sides, short strong press	short strong press with roller
with hardeners	from -20 to 100 °C		
Reactive adhesives			
Epoxy/polyurethane	from -20 to 100 °C	manual, with hand roller/spatula or machine, with special roller	with roller and providing heat
Hot-melt adhesives			
EVA	from -20 to 90 °C	machine	usage in accommodation spaces
PA/PO	from -20 to 110 °C		
PUR	from-30 to 140 °C		spaces of high humidity and thermal stress

6 — Carrier materials

To create the perfect surface, laminate **HPL** Swiss Krono should be used (glued) on both sides of the carrier material.

It is recommended to use laminates of the same parameters, particularly the same thickness, on both sides. Remember to glue opposite laminate sheets to the carrier material in the same direction.

Failure to follow above recommendations may result in material deformation.

Carrier materials

- Particle boards
- MDF
- HDF
- OSB
- Plywood
- Wooden boards
- Cellular materials

CARRIER MATERIAL

HPL LAMINATE

HPL LAMINATE

THE SAME DIRECTION OF LAMINATE
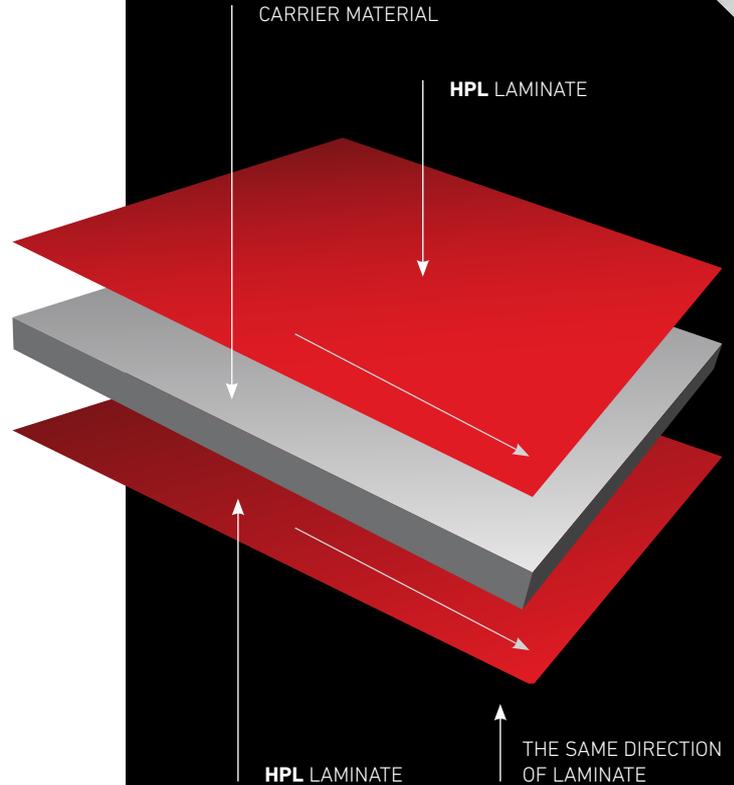
7 — Cleaning

HPL SWISS KRONO should be cleaned with a damp soft rug or sponge and regular cleaning agents available on the market, e.g. dish soap.

Cleaning agents commonly used in households perform well in contact with laminate if they have no wear properties and do not contain acids or strong alkaline substances.

After washing with standard cleaning agents, laminate should be washed with clean water and dried completely in order to obtain a smooth surface without smudges.

HPL SWISS KRONO is resistant to most stain-causing substances, e.g. milk, tea, coffee, wine, syrups.

Despite the high parameters of **HPL** laminate, it is recommended to remove remains of all aforementioned products from the surface promptly.

Particular attention should be paid to products such as blueberry juice, beetroot juice, or tomato puree

Milk

Tea

Coffee

Wine

Juice

Soap

Ink

Lemon

Acetone

Blueberries

Beet

Tomato

8 — EN 438-3 standard

HPL Swiss Krono laminates meet the requirements defined by the **EN 438-3** standard.

EN 438-3 standard precisely defines the parameters and properties of all types of **HPL** laminates, including control procedures for unequivocal determining of declared material properties.

HPL SWISS KRONO are resistant to:

Impact	Staining	Scratching
Cigarette embers	Light	Hot water
Hot pot bases	Steam	

Property	Unit	Requirement	Standard
Thickness tolerance	mm	0,5 - 0,9 mm ± 0,10	EN 438-2.5
Length tolerance	mm	+10 / -0	EN 438-2.6
Width tolerance	mm	+10 / -0	EN 438-2.6
Resistance to scratches	N	≥ 3	EN 438-2.25
Resistance to wear	rotations	IP ≥ 150, IP + FP/2 ≥ 350	EN 438-2.10
Impact resistance (Large diameter ball)	mm	≥ 800	EN 438-2.21
Flatness tolerance	mm/m	≤ 60	EN 438-2.9
Edge straightness tolerance	mm/m	≤ 1,5	EN 438-2.7
Squareness tolerance	mm/m	≤ 1,5	EN 438-2.8
Density	g/cm^3	≥ 1,35	EN 1183-1:2004
Stain resistance	degree	group 1 i 2 = 5	EN 438-2.26
	degree	group 3 ≥ 4	
Resistance to cigarette embers	degree	≥ 3	EN 438-2.30
Light resistance (xenon lamp)	Grayscale	≥ 4	EN 438-2.23
Resistance to hot pot base (180°C)	degree	shiny surfaces ≥ 3	EN 438-2.16
		other surfaces ≥ 4	
Steam resistance	degree	shiny surfaces ≥ 3	EN 438-2.14
		other surfaces ≥ 4	

SWISS KRONO