

SWISS KRONO HPL IMO

1. Product description

SWISS KRONO HPL IMO, is a high-pressure laminate with low flame spread characteristics, designed for interior applications.

SWISS KRONO HPL IMO meets the requirements of Directive 2014/90/EU of the European Parliament and of the Council of July 23, 2014 on marine equipment and repealing Council Directive 96/98/EC, which confirms the product's compliance with marine equipment regulations and entitles it to be used on EU marine vessels.

Thickness range:

- 0.5 - 0.8 mm.

Substrate types:

- non-flammable, non-metallic above 9.4 mm thick,
- metallic above 1.5 mm thick.

Color range:

- according to the manufacturer's pattern book - a wide range of decors and textures.

2. Use

Application areas for SWISS KRONO HPL IMO laminates - furniture finishing, interior decoration as a surface material with low flame spread, not producing excessive smoke or toxic products during a fire. SWISS KRONO HPL IMO is a decorative material for ship interiors, especially as cladding for bulkheads, walls and ceilings, except for pipe and cable covers. It is not intended for floor coverings.

SWISS KRONO HPL IMO is produced in accordance with the classification and typical use system contained in EN 438-3 standard, table 3:

- HGF
- VGF

The individual letters stand for:

H – **H**orizontal use

or

V – **V**ertical use

G – **G**eneral purpose

F – **F**lame retardant

1. Technical data

3.a. Build up

HPL IMO laminate consists of one or more layers of paper, including decorative paper, impregnated with thermosetting resins. The core of the laminate is a paper impregnated with phenolic resin and may consist of multiple layers of such paper. All layers are bonded together at high temperature and under high pressure. The underside is sanded and prepared for bonding to a backing board.

3.b. Parameters

SWISS KRONO HPL IMO laminates meet the requirements defined in EN 438-3 standard.

**Table 1. Technical and performance properties of laminates in HGF types.
General Requirements.**

Property	Unit of measurement	Requirement	Test method
Thickness tolerance	mm	0.5 - 1.2 mm \pm 0.10	EN 438-2.5
Length tolerance	mm	+10 / -0	EN 438-2.6
Width tolerance	mm	+10 / -0	EN 438-2.6
Scratch resistance	N	\geq 3	EN 438-2.25
Abrasion resistance	turnover	IP \geq 150, IP + FP/2 \geq 350	EN 438-2.10
"Impact resistance (Small diameter ball)"	N	\geq 20	EN 438-2.20
Flatness tolerance	mm/m	\leq 60	EN 438-2.9
Edge straightness tolerance	mm/m	\leq 1.5	EN 438-2.7
Squareness tolerance	mm/m	\leq 1.5	EN 438-2.8
Density	g/cm ³	\geq 1.35	EN 1183-1:2004
Stain resistance	degree	group 1 and 2 = 5 group 3 \geq 4	EN 438-2.26
Light resistance (xenon lamp)	Gray scale	\geq 4	EN 438-2.27
Resistance to hot pot base (160°C)	degree	glossy surface \geq 3 other surfaces \geq 4	EN 438-2.16

Steam resistance	degree	glossy surface ≥ 3 other surfaces ≥ 4	EN 438-2.14
Formaldehyde emissions		Class E1	EN 717 -1

**Table 2. Technical and performance properties of laminates in VGF types.
General Requirements.**

Property	Unit of measurement	Requirement	Test method
Thickness tolerance	mm	0.5 - 1.2 mm \pm 0.10	EN 438-2.5
Length tolerance	mm	+10 / -0	EN 438-2.6
Width tolerance	mm	+10 / -0	EN 438-2.6
Scratch resistance	N	≥ 2	EN 438-2.25
Abrasion resistance	turnover	IP ≥ 50 , IP + FP/2 ≥ 150	EN 438-2.10
"Impact resistance (Small diameter ball)"	N	≥ 15	EN 438-2.20
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 and 2 = 5 group 3 ≥ 4	EN 438-2.26
Light resistance (xenon lamp)	Gray scale	≥ 4	EN 438-2.27
Steam resistance	degree	glossy surface ≥ 3 other surfaces ≥ 4	EN 438-2.14
Formaldehyde emissions		Class E1	EN 717 -1

3.c. Production capabilities

SWISS KRONO HPL IMO can be produced in sheets or rolls and are available only on request in formats:

Width range mm	Length range mm	Thickness range mm	Type
630 – 1320	500 – 5600	0,5 -0,8	sheets
2080	500 - 5600	0,5 -0,8	sheets
Width mm	Length mm	Thickness range mm	Type
1300	250 000	0,5 – 0,6	rolls*
2060	250 000	0,5 – 0,6	rolls*

*maximum roll diameter 400 mm, core diameter 150 mm

3. Packaging, storage and transportation

4.a. Storage of SWISS KRONO HPL IMO in sheets

- SWISS KRONO HPL IMO should be laid out and stored on a flat, rigid and stable surface.
- The surface of the rack should be larger than the laminate sheets.
- The stack should be covered over the entire surface with a cover plate.
- In the stack, between the sheets, there should be no dirt that can scratch the surface of the laminates.
- Individual sheets can be rolled up.
- Laminaty HPL IMO should be stored indoors and covered, in a place protected from moisture.
- Care should be taken when handling and transporting laminate sheets to avoid damage.
- There should be an information label on each stack, containing, in addition to product identification data, the steering wheel mark with the number of the notified body and the year in which the mark was applied.

4.b. SWISS KRONO HPL IMO storage in rolls

- SWISS KRONO HPL IMO should be laid out and stored on a flat, rigid and stable surface.
- The rolls should be placed on a pallet, with a maximum of 6 pieces in pyramid form (narrow format), or in pyramid with 3 pieces (wide format).
- The whole should be fastened together with banding tape to prevent the material from moving in transit.
- In the stack, between the rolls, there should be no dirt that can scratch the surface of the laminates.
- HPL IMO should be stored indoors and covered, in a place protected from moisture.
- Care should be taken when handling and transporting laminates to avoid damage.
- There should be an information label on each roll, containing, in addition to product identification data, the steering wheel mark with the number of the notified body and the year in which the mark was applied.

4. Waste disposal

5.a. Energy recovery

SWISS KRONO HPL IMO laminates can be thermally recycled. When HPL laminates burn completely at 700 °C, water, carbon dioxide and nitrogen oxides are produced. Well-controlled combustion processes are achieved in modern, officially approved industrial incinerators. Ashes from this process can be delivered to controlled waste disposal sites.

5.b. Landfills

Unusable residues of SWISS KRONO HPL laminates should be delivered to controlled waste disposal sites in accordance with current national and/or regional regulations.

5. Certificates and licenses

- Hygienic certificate - confirms class E1
- Certified for antibacterial properties
- Certificate MED – B
- Certificate MED – D

6. Installation and maintenance rules

The rules for installation and maintenance of HPL IMO laminates are described in the "SWISS KRONO HPL IMO Laminate Installation Manual", which supplements this product sheet and is available for download from www.swisskrono.com/pl-en/products/interiors/swiss-krono-hpl-imo