



HPL Product Data Sheet

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1. Description

The materials referred to are high pressure decorative laminates (Salomil HPL) according to the European Standard EN 438.

Salomil Laminates are sheets consisting of layers of cellulose fibrous material (normally paper) impregnated with thermosetting resins and bonded together with the high-pressure process.

Basically more than 60% of Salomil Laminates consists of paper and the remaining 30 to 40% consists of cured phenol-formaldehyde resin for the core layers and melamine-formaldehyde resin for the surface layers.

Salomil HPL is supplied in sheet form in a variety of sizes, thicknesses and surface textures.

2. Storage and Transportation

Storage and transportation should be carried out in accordance with the general processing recommendations for HPL; no special precautions need to be taken.

For transportation, Salomil Laminates are classified as a non-hazardous product; no labeling is required.

3. Handling and Machining of Salomil Laminate

The usual safety requirements of fabrication and machining should be concerned with regard to dust collection, dust extraction and fire prevention.

Because of the possibility of sharp edges, protective gloves should always be worn when handling laminates.

Contact with dust from Salomil Laminates does not present any special problems, however a small percentage of personnel may be sensitive or even allergic to machining dust in general.

4. Environmental and Health Aspects

Salomil decorative laminates are cross-linked and cured therefore they are chemically inert. Due to their very low permeability, Salomil Laminates bonded to wood based substrates act as a barrier against possible gaseous emissions coming out of the substrates.

Salomil Laminates has no migration affection food, hence they are approved of direct contact with foodstuff.

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

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

5. Maintenance

As Salomil Laminates do not suffer from corrosion and oxidation, they do not need any further surface protection (lacquers or paints) and no maintenance apart from cleaning is needed.

6. Salomil Laminates in Fire Situations

Salomil Laminates are difficult to ignite and have properties that help the low spread of flame. Thus the evacuating time in case of fire is prolonged.

In case of lack of oxygen, as with many organic materials, the fire can produce toxic substances that would be found in the smoke due to incomplete combustion.

Salomil Laminate is also available in F-Quality (fire retardant) and do not contain halogenated fire retardants.

In dealing with fires involving laminates, the same firefighting techniques should be applied as with other wood based materials.

7. Energy Recovery

Due to the fact of their high calorific value Salomil Laminates are ideal for recycling. When burnt completely, Salomil Laminates produce water, carbon dioxide and nitrogen.

Well controlled burning processes are held in modern approved industrial incinerators. Ashes of this process can be brought to waste disposal sites. They do not contain heavy metals.

8. Waste Disposal

Salomil Laminates can be disposed on controlled waste disposal sites according to current national and/or regional regulations.

9. Technical Data

9.1 Physical and chemical characteristics

Physical state	Solid sheets
Density	$\geq 1,35 \text{ g/cm}^3$
Solubility	Insoluble in water, oil, methanol, acetone
Boiling point	None
Evaporation rate	None
Melting point	Salomil Laminates do not melt

Calorific value	18-20 MJ/kg
Heavy metals	Salomil Laminates do not contain toxic compounds of antimony, heavy metals, chromium, lead, mercury.

9.2 Stability and reactivity data

Stability	Salomil Laminates are stable, they're not considered to be reactive or corrosive.
Hazardous reactions	None
Material incompatibility	Strong acids or alkaline solutions will stain the surface

9.3 Fire and explosion data

Ignition temperature	Approx. 400°C
Flash point	None
Thermal decomposition	Possible above 250°C. Depending on burning conditions. Salomil Laminates are classified safe when tested according to NF F 16 101
Smoke and toxicity	Salomil Laminates are classified F2 when tested according to NF F 16 101
Flammability	Salomil Laminates are not considered to be flammable. They will burn only in a fire situation, in presence of open flames.
Extinguishing media	Salomil Laminates are considered class A materials.
Explosion hazards	The machining, sawing, sanding and routing of Salomil Laminates produce class ST-1 dust. Safety precautions must be observed to avoid dust concentration.
Explosion limits	Dust levels should be kept below 60 mg/m ³
Protection against explosion and fire	In case of fire, Salomil Laminates should be treated as wood based materials.

9.4 Health information

	Salomil Laminates are not considered dangerous to animals or humans.
Formaldehyde emission	<0.4 mg/h m ² (tested according to EN 717-2) <0.05 ppm (tested according to EN 717-1)
Pentachlorophenol	Salomil Laminates do not contain PCP (Pentachlorophenol)

9.4 HPL meets performance standards published in Nema LD-3-1985 for type of high pressure laminates.

Below, some typical test values of Salomil Laminates of Nema Standard GP28:

Nema Test	Nema Standard GP28	Salomil GP28 Test Values
<i>Wear resistance</i>	Minimum cycles 200	270
<i>Scratch resistance</i>	Minimum cycles NE	NE
<i>Impact resistance</i>	Minimum cycles 20	37
<i>Boiling water resistance</i>	Minimum rating NE	NE
<i>High temperature resistance</i>	Minimum rating SL	SL
<i>Radiant heat resistance</i>	Minimum seconds 80	120
<i>Conductive heat resistance</i>	Minimum rating NE	NE
<i>Stain resistance</i> <i>Reagents 1-23</i> <i>Reagents 24-29</i>	Minimum rating NE Minimum rating M	NE SL
<i>Light resistance</i>	Minimum rating NE	NE

Definitions:

- NE – No Effect
- M - Moderate Effect
- SL - Slight Effect
- VSL – Very Slight Effect



9.6 Below a test held by the Ministry of Foreign Trade & Industry (Chemistry Administration) and the results show the impact of chemicals and other substances on Salomil Laminates.

Substance name	Concentration	Effect
Acids		
1- Hydrochloric Acid	37%	No Effect
2- Sulfuric Acid	97%	No Effect
3- Phosphoric Acid	85%	No Effect
4- Acetic Acid	98%	No Effect
Dyes		
Methylene blue dye	1%	No Effect
Solvents		
1- Acetone	--	No Effect
2- Ethyl alcohol	--	No Effect
Dust ratio	8.85%	--
Bacteria effect	--	Has the ability to prevent bacterial growth
Fungi effect	--	Has the ability to prevent fungi growth



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