

This information sheet describes the composition of PRINT HPL and gives advice for their safe handling, processing, use and waste disposal in safety conditions.

PRINT HPL are considered as articles, they do not require a safety data sheet as established by articles 31 and 32 of REACH for substances and mixtures

This document makes no claim of completeness regarding listing the full details of any standards referred to in the text. All information is based on the current state of technical knowledge, but it does not constitute any form of liability. It is the personal responsibility of the user of the products described in this information leaflet to comply with the appropriate laws and regulations.

0. Manufacturer

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1. Product

This product data sheet applies to the whole ABET LAMINATI range of laminates ~~PRINT® HPL~~ and ~~PRINT®~~ in its various grades (hereinafter referred to as Print HPL).

2. Description / Composition

The materials referred to are high-pressure decorative laminates (HPL) according to the European Standard EN 438 and to ISO 4586.

PRINT HPL are sheets consisting of layers of cellulose fibrous material (normally paper) impregnated with thermosetting resins and bonded together by the high-pressure process. The process, defined as the simultaneous application of heat ($\geq 120^{\circ}\text{C}$) and high specific pressure ($\geq 5\text{ MPa}$) provides flowing and subsequent curing of the thermosetting resins to obtain a homogenous non-porous material (density $\geq 1,35\text{ g/cm}^3$) with the required surface finish.

Basically, more than 60 % of PRINT HPL consist of paper and the remaining 30 to 40 % consist of cured phenol-formaldehyde resin for the core layers and melamine-formaldehyde resin for the surface layer, or the typologies with coloured core. Some products can be composed of surface or internal metal layers, i.e. aluminium or iron, and also of surface veneer layers.

Both resins belonging to the group of thermosetting resins are irreversibly interreacted through cross linked chemical bonds formed during the curing process, producing a stable material with characteristics which are totally different from those of its component parts.

PRINT HPL are supplied in sheet form in a variety of sizes, colours, thicknesses and surface finishes. Where improved fire retardance is required, the laminate core may be treated with an additive which does not contain halogens.

3. Storage and Transportation

Storage and transportation should be carried out in accordance with the [General-recommendations-for-transport-storage-and-use-of-materials](#). For transportation, PRINT HPL is not classified as a hazardous product; no labelling is required.

4. Handling and machining of PRINT HPL

The usual safety requirements of fabrication and machining should be observed with regard to dust extraction, dust collection, fire and explosions precautions.

For the typologies of product containing metal layers, avoid a build up of dust. In case of machining developing dust, avoid sparks and sources of ignition in all electrical equipment, including dust extraction equipment.

Due to the possibility of sharp edges, use cut-proof protective gloves and safety-glasses to prevent eye injuries. No special working equipment is necessary, except protections to minimize dust formation and exposure in case of sheet machining. The contact with dust from PRINT HPL do not present any special problems, however, a small percentage of personnel may be sensitive or even allergic to machining dust in general.

5. Environmental and health aspects in use

Decorative laminates are cured, therefore chemically stable. Gas release from surfaces and edges are insignificant.

PRINT HPL are not considered to be dangerous for humans and animals. There is no evidence of PRINT HPL toxicological effects and eco-toxicity.

PRINT HPL surfaces are physiologically safe. Although our product is not specifically intended for continuous and long periods of contact with food, like food packaging or tableware, tests in accordance with EC Reg. Nr. 1935/2004 and EC nr 10/2011 (incl. Reg. EU No. 1245/2020) confirm the suitability of PRINT HPL for food contact. For further specific information please contact your sales representative.

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

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 important.

6. Cleaning and care

PRINT HPL is a homogeneous, non-porous material and is resistant to most household chemicals. The PRINT HPL surface and edges are easy to disinfect with hot water, steam and common types of disinfectants used in hospitals and other commercial facilities.

Although liquids cannot penetrate into the material, any soiling or stains should be wiped off immediately. Prolonged contact, mainly with corrosive substances, e.g. descaler, aggressive household cleaners, toilet cleaners and oven cleaners, must be avoided and removed immediately.

The PRINT HPL surface is simply cleaned with warm water and then wiped dry with a paper or soft cloth. If impurities cannot be removed with this, common household cleaning agents, such as washing powder, liquid soap or hard soap, which do not have any abrasive ingredients or regreasing properties, will help. PRINT HPL are neither corrosive nor do they oxidize. They do not require any further surface treatment. For further information, you can consult the document [Instructions for cleaning of HPL decorative laminates](#), uploaded on Abet's website.

7. PRINT HPL in fire situations

Laminates are difficult to ignite and have a low spread of flame. In case of lack of oxygen, the fire can produce toxic substances due to incomplete combustion as with any other organic material. PRINT HPL laminates are also available in FR-quality (fire retardant) and do not contain halogenated fire retardants. In case of fire in which PRINT HPL are involved, the same fire-fighting techniques should be employed as with other wood-based building materials.

8. Energy recovery and waste disposal

Due to their high calorific value (18 - 20 MJ/kg)* PRINT HPL are suitable for thermal recycling. When burned completely at 850 °C, PRINT HPL produce water, carbon dioxide and oxides of nitrogen.

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

PRINT HPL can be brought to controlled waste disposal sites according to current national and/or regional regulations. The CER code for the disposal of the laminate and the dust of laminate is 030105.

* For comparison: Calorific value of oil = 37 - 41 MJ/kg, or of hard coal = 28 - 31 MJ/kg.

10. Technical data**10.1 Physical-chemical characteristics**

10.1.1	Physical state	Solid sheet
10.1.2	Density	$\geq 1,35 \text{ g/cm}^3$
10.1.3	Solubility	Insoluble in water, oil, methanol, diethyl ether, n-octanol, acetone
10.1.4	Boiling point	None
10.1.5	Evaporation rate	None
10.1.6	Melting point	Do not melt
10.1.7	Calorific value	18 - 20 MJ/kg
10.1.8	Dangerous substances	PRINT HPL do not contain SVHC in concentration above 0,1% w/w or heavy metals (Antimony, Barium, Cadmium, Chromium ^{VI} , Lead, Mercury, Selenium).

10.2 Stability and reactivity data

10.2.1	Stability	PRINT HPL are stable; they are not considered to be reactive nor corrosive
10.2.2	Hazardous reactions	None
10.2.3	Material incompatibility	Strong acids or alkaline solutions will stain the surface

10.3 Fire and explosion data

10.3.1	Ignition temperature	Approx. 400 °C
10.3.2	Flash point	None
10.3.3	Thermal decomposition	Possible above 250 °C.
10.3.4	Flammability	PRINT HPL are not considered to be flammable. They will burn only in a fire situation, in presence of open flames.
10.3.5	Extinguishing media	PRINT HPL are considered as class A 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. For products containing metal layers, dry powder can be used. <u>Do not use water, carbon dioxide nor foam.</u>
10.3.6	Explosion hazard	PRINT HPL machining, sawing, sanding routing produces class ST-1 dust. Safety precautions and adequate ventilation shall be observed to avoid airborne dust concentration. For products containing metal, see chapter 4 of this document.
10.3.7	Explosion limits	Dust below 60 g/m ³
10.3.8	Protection against fire and explosion	None required as for wood-based building materials.

10.4 Electrostatic behaviour

Print HPL minimize the generation of charge by contact-separation or rubbing with another material. They do not need to be earthed. Surface resistivity is between 10^9 - 10^{12} ohms and a chargeability of $V \leq 2 \text{ kV}$ according to CEI IEC 61340-4-1, so that Print HPL is antistatic material.

10.8

10.8.1	Working areas	General dust regulation to apply.
10.8.2	Formaldehyde emission	Typical value for a unbonded 0,9 mm PRINT HPL: < 0,2 mg/h m ² when tested according to EN ISO 12460-3 < 0,05 ppm when tested according to EN 717-1 (WKI chamber method)