

Environmental Product Declaration

In accordance with ISO 14025 and EN 15804 for:

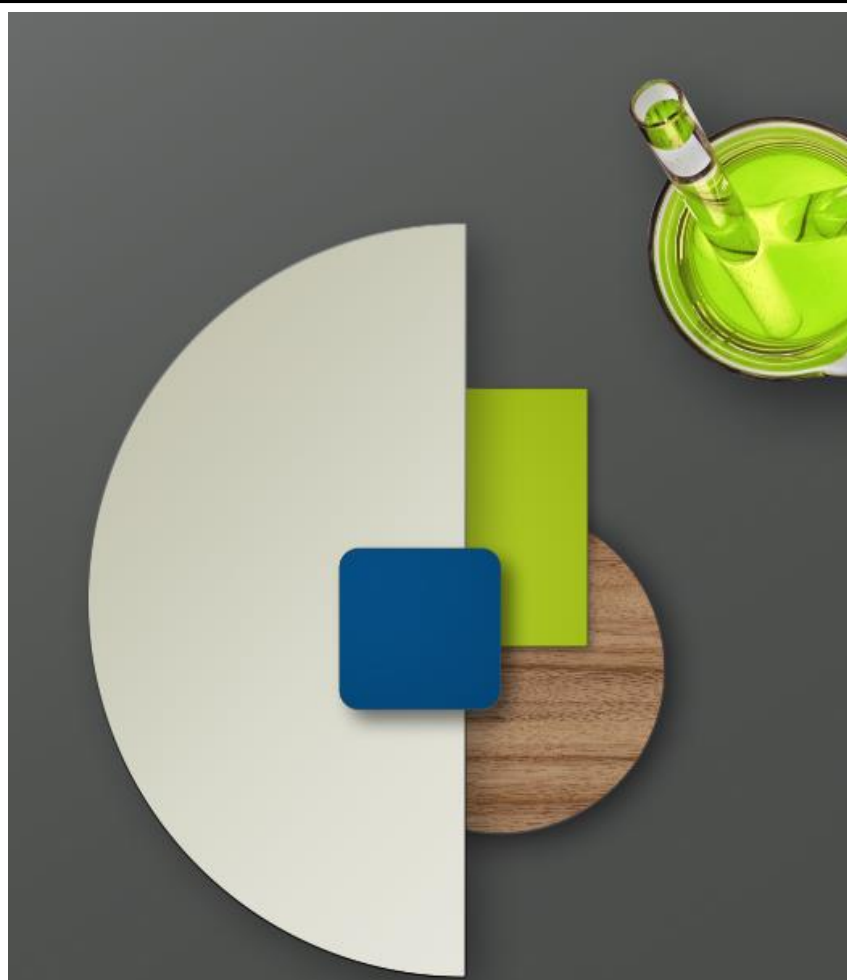
TRESPA® TOPLAB®

from

Trespa International B.V.



Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-01818
ECO EPD ref. number	00001118
Publication date:	2020-01-22
Valid until:	2024-12-16



Programme information

Programme:	The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden www.environdec.com info@environdec.com
-------------------	--

Product category rules (PCR): PCR 2012:01 Construction Products And Construction Services, Version 2.3, UN CPC 314

PCR review was conducted by the technical committee of the International EPD® System

Independent third-party verification of the declaration and data, according to ISO 14025:2006:

EPD process certification EPD verification

Third party verifier: *Valentina Fantin*

Approved by: The International EPD® System

Procedure for follow-up of data during EPD validity involves third party verifier:

Yes No

The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804.

Company information

Owner of the EPD: Trespa International B.V., Wetering 20, 6002 SM Weert (The Netherlands).

Contact information: certification@trespa.com

Description of the organisation: Trespa International B.V. is a leading innovator in the field of architectural materials, recognised internationally as a premier developer of high quality panels for exterior cladding, decorative façades, and scientific surface solutions. Since its founding in 1960, Trespa has worked closely with architects, designers, installers, distributors, raw material suppliers and end users globally. Trespa’s focus is on product development, combining quality-manufacturing technologies with intelligent solutions for architectural and scientific surface applications. With unique insights into key market challenges, trends and demands, Trespa passionately delivers innovative aesthetically pleasing and high performance solutions for a wide range of needs.

Trespa International B.V. is, amongst other certification schemes, certified ISO 9001, ISO 14001, PEFC and FSC.

Name and location of production site: The manufacturing plant of Trespa is based in Weert (The Netherlands).

Product information

Product name: Trespa® Toplab® (Plus, Vertical and Base)

Product identification: Decorative highpressure compact panels (high-pressure laminates, HPL) tested in accordance with the European standard EN 438 part 2 and partially CE marked (TopLab® Vertical® in accordance with the European standard EN 438 part 7).

Product description: Trespa® Toplab® panels are decorative highpressure compact panels (high-pressure laminates, HPL). Trespa® Toplab® panels comprise individual layers of natural fibres, treated with thermosetting resins and pressed under high pressure. The panels are attributed with an integrated decorative layer on one or both sides of the panels. In case of a one-sided décor layer, the backside is black. Three different types of Trespa® Toplab® are produced: Plus, Vertical and Base.

The surface of Trespa®TopLab®Plus and Vertical is based on the inhouse developed

EBC technology whereas the surface of the Trespa® TopLab® Base product is melamine based.

Panel dimensions

Length: up to 3050 mm
Width: up to 1860 mm

	Thickness							
	6 mm	8 mm	10 mm	13 mm	16 mm	19 mm	20 mm	25 mm
TopLab® Plus				■	■		■	■
TopLab® Vertical	■	■	■	■				
TopLab® Base	■	■	■	■	■	■	■	

Trespa® Toplab ® panels are available in a wide color and décor range as well as in a variety of finishes.

UN CPC code: 314

Geographical scope: Europe

Trespa®TopLab products are sold in Europe, Asia and USA but it is assumed that 100% of post-consumer HPL waste is combusted in an European incineration plant.

LCA information

Functional unit / declared unit: In accordance to the PCR the declared unit is 1 m² of product. The Trespa® Toplab® HPL product with 16 mm thickness has an area weight of 22.4 kg/m².

Reference service life: The reference service life for the Trespa® Toplab® panels is set at 50 years, provided that they are subject to appropriate installation, use and maintenance under normal conditions. A calculation according ISO 15686 /ISO 15686/ is not applied.

Time representativeness: Primary data were collected internally. The production data refer to an average of the year 2018.

Database(s) and LCA software used: The Ecoinvent database provides the life cycle inventory data for the raw and process materials obtained from the background system. The used database is Ecoinvent 3.5. The LCA software used in SimaPro 9.

System diagram: The system diagram is shown in the picture below and includes:

- The production and transportation of raw materials;
- The manufacturing of Toplab® panels;
- The incineration of the panels at the end of their life time; and
- The energy credits coming from the incineration of the panels.

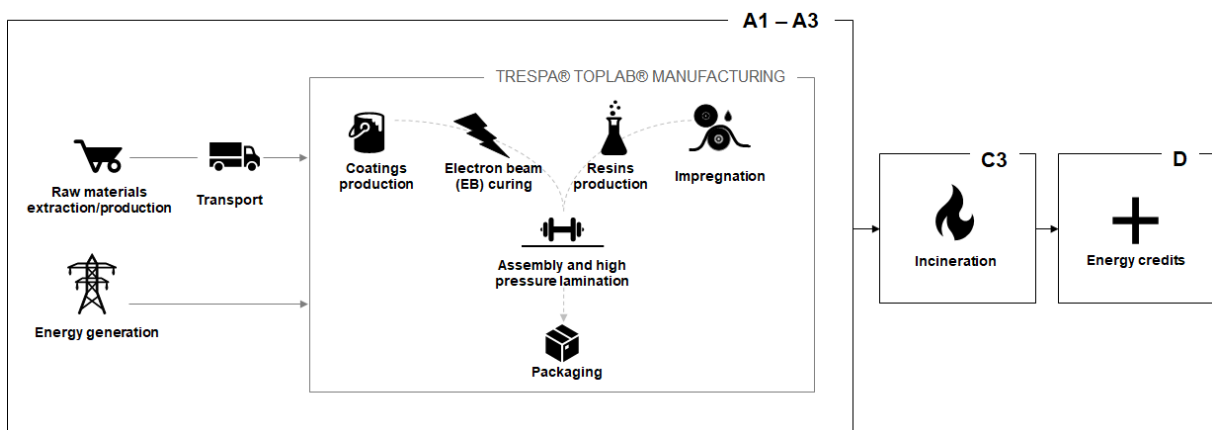
Description of system boundaries: The EPD is of the type "cradle-to-gate" - with options. Modules A1-A3 include processes that provide materials and energy input for the system, manufacturing and transport processes up to the factory gate, as well as waste processing C3 includes the incineration process with energy substitution with electricity and thermal energy generation.

Module D contains the calculated amount of benefits beyond the system boundaries of the respective product. It is part of the subsequent product system.

Production of capital equipment, facilities and infrastructure required for manufacture are outside the scope of this assessment.

Data quality: The foreground data collected internally are based on yearly production amounts and extrapolations of measurements on specific machines and plants. Overall the data quality can be described as good. The primary data collection has been done thoroughly.

Cut-off criteria: In the assessment, nearly all available data from production process are considered, i.e. all raw materials used, utilised thermal energy, and electric power consumption. Thus energy flows contributing less than 1% of mass or energy are considered. Certain chemicals from the decor are cut off. The cut off materials make up less than 0,01% of the total material input.



System diagram.

Content declaration

Product

The products under this EPD do not contain substances listed on the candidate list of Substances of Very High Concern, as published on the ECHA website, in concentrations exceeding 0.1 percentage by mass.

No biocides products are added to the products mentioned under this EPD.

Packaging

Packaging of Trespa® Toplab® panels include:

- wooden pallets
- paper sheets
- polypropylene cover sheets
- polyethylene foil (optional)
- steel strip

Trespa International B.V. recycles and reuses mentioned products as much as possible.

Recycled material

Provenience of recycled materials (pre-consumer or post-consumer) in the product: /

Environmental performance

Potential environmental impact

PARAMETER	UNIT	A1-A3	C3	D
Global warming potential (GWP)	kg CO ₂ eq.	4,46E+1	5,21E+1	-4,86E+1
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC 11 eq.	3,78E-6	5,59E-6	-5,66E-6
Acidification potential (AP)	kg SO ₂ eq.	1,12E-1	6,50E-2	-2,46E-1
Eutrophication potential (EP)	kg PO ₄ ³⁻ eq.	1,13E-1	6,15E-2	-1,72E-1
Formation potential of tropospheric ozone (POCP)	kg C ₂ H ₄ eq.	1,18E-2	3,65E-3	-9,56E-3
Abiotic depletion potential – Elements	kg Sb eq.	7,41E-5	4,21E-5	-2,71E-5
Abiotic depletion potential – Fossil resources	MJ, net calorific value	7,24E+2	2,14E+2	-5,47E+2

Use of resources

PARAMETER	UNIT	A1-A3	C3	D	
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	2,38E+2	3,78E+1	-1,55E+2
	Used as raw materials	MJ, net calorific value	2,23E+2	-2,23E+2	0,00E+0
	TOTAL	MJ, net calorific value	4,61E+2	-1,85E+2	-1,55E+2
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	6,69E+2	2,48E+2	-1,06E+3
	Used as raw materials	MJ, net calorific value	1,80E+2	-1,80E+2	0,00E+0
	TOTAL	MJ, net calorific value	8,49E+2	6,80E+1	-1,06E+3
Secondary material	kg	0,00E+0	0,00E+0	0,00E+0	
Renewable secondary fuels	MJ, net calorific value	0,00E+0	0,00E+0	0,00E+0	
Non-renewable secondary fuels	MJ, net calorific value	0,00E+0	0,00E+0	0,00E+0	
Net use of fresh water	m ³	8,24E-1	8,25E-1	-7,70E-1	

Waste production and output flows

Waste production

PARAMETER	UNIT	A1-A3	C3	D
Hazardous waste disposed	kg	1,30E-3	6,06E-4	-1,15E-3
Non-hazardous waste disposed	kg	3,30E+0	1,00E+1	-3,22E+0
Radioactive waste disposed	kg	1,27E-3	1,35E-3	-7,10E-3

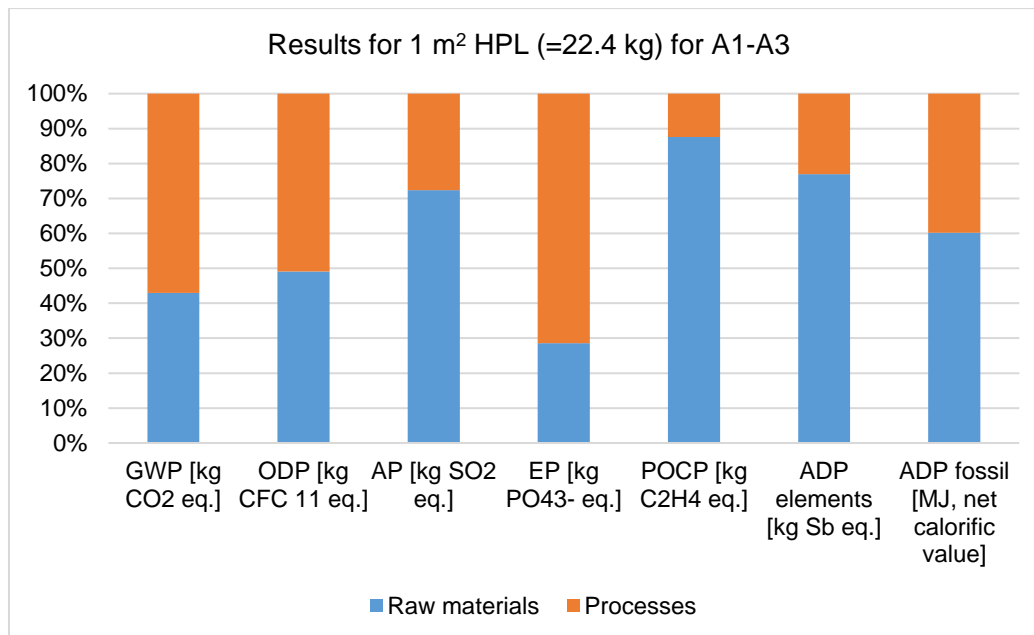
Output flows

PARAMETER	UNIT	A1-A3	C3	D
Components for reuse	kg	0,00E+0	0,00E+0	0,00E+0
Material for recycling	kg	0,00E+0	0,00E+0	0,00E+0
Materials for energy recovery	kg	0,00E+0	2,24E+1	0,00E+0
Exported energy, electricity	MJ	0,00E+0	4,03E+1	0,00E+0
Exported energy, thermal	MJ	0,00E+0	3,00E+2	0,00E+0

Modules non declared: A4, A5, B2-B7, C1, C4.

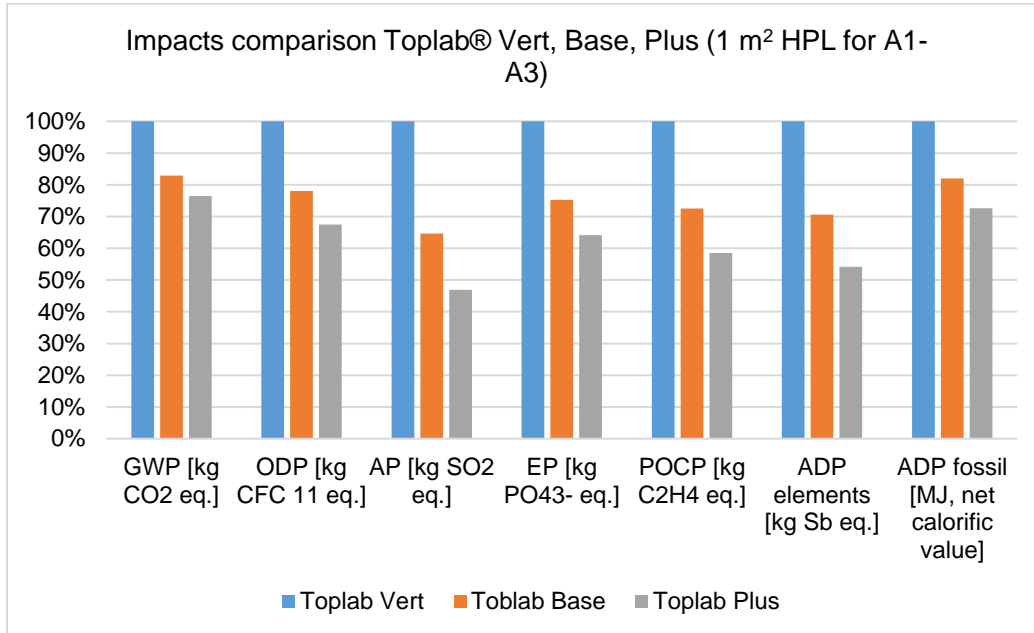
LCA interpretation

This short overview of the main sources of environmental impacts (figure below) for an average product shows that more than 50% of the AP (Acidification Potential), POCP (Photochemical Ozone Creation Potential), ADP (Abiotic Depletion Potential) elements and ADP fossil impacts comes from the production of the used raw materials. Except for AP, where paper represents the main contributor, POCP, ADP elements and ADP fossil categories are mostly affected by the resins used to impregnate the paper and woodchips. The impact of EP (Eutrophication Potential) is largely due to the water emissions on site, whilst GWP (Global Warming Potential) and ODP (Ozone Depletion Potential) are affected by the steam and electricity used on site and, to a lesser extent, by the impregnation resins.



The graph below shows the impacts comparison amongst the three Toplab® products. The different environmental performance of Toplab® Base, Plus and Vertical is mainly due to their core. The impregnated woodchips core performs better than the impregnated paper core in every impact categories, with benefits ranging from 27% to 58%. Being Toplab® Vert entirely produced with a paper impregnated core, its impact is the highest in all the environmental categories. Toplab® Base's core is made both with impregnated woodchips (60%) and impregnated paper (40%), while Toplab® Plus's core is almost entirely produced with impregnated woodchips, therefore presenting the best performance across all the categories.

It should be noted that, when looking at the entire Trespa 2018 production, Toblab® Vert represents only 4% of the Toblab® panels manufactured, while Toblab® Plus counts for 61% of the total share. The LCA results shown in this document, representing the impact of the average product manufactured at Trespa, reflect the production shares as described above.



Additional information

Technical information: Assessment rules for High Pressure Laminates are given in guideline EN 438, various parts.

Properties	Value	Unit
Surface quality		
Spots, dirt, similar surface defects	≤ 1	mm ² /m ²
Fibres, hairs & scratches	≤ 10	mm ² /m ²
Physical properties		
Resistance to surface wear	≥ 50 (initial point) ≥ 150 (wear value)	Revolutions (min)
Resistance to impact by large diameter ball	≤ 6 (drop height 1.8 m)	mm
Resistance to dry heat (160° C / 320° F)	≥ 4	Rating (min)
Resistance to wet heat (100° C / 212° F)	≥ 4	Rating (min)
Resistance to immersion in boiling water	≤ 1 (mass increase - % max) ≤ 1 (thickness increase - % max) ≥ 4 (appearance)	t ≥ 6 mm t ≥ 6 mm Rating (min)
Dimensional stability at elevated temperature	≤ 0.25 (longitudinal) ≤ 0.25 (transversal)	%
Resistance to water vapour	≥ 4	Rating (min)
Resistance to crazing	≥ 4	Rating (min)

Formaldehyde emission levels of Trespa® Toplab® products comply with the requirements of Class E1 in accordance with EN 717-1. Factory control testing is based on EN 717-2. Trespa® Toplab® products are also certified GreenGuard and GreenGuard Gold.

More information available at <https://www.trespa.info>.

References

- General Programme Instructions of the International EPD® System. Version 3.0.
- PCR 2012:01. Construction Products And Construction Services. Version 2.3.
- ISO 14040:2006. Environmental management. Life cycle assessment. Principles and framework.
- ISO 14044:2006. Environmental management. Life cycle assessment. Requirements and guidelines.
- UNE-EN 15804:2013 Sustainability of construction works. Environmental product declarations.
- UNE-EN 15804:2012 Sustainability of construction works. Environmental product declarations.
- EN 438-2:2016 High-pressure decorative laminates (HPL).
- EN 717:2005, Wood-based panels – Determination of formaldehyde release.

