

JBH



# Acoustic Ceiling Panel

## Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019

Programme:	The International EPD® System, <a href="http://www.environdec.com">www.environdec.com</a>
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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)



# Programme information

<b>Programme</b>	The International EPD® System <a href="http://www.environdec.com">www.environdec.com</a>
<b>Programme Operator</b>	The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden <a href="http://www.environdec.com">www.environdec.com</a> <a href="mailto:info@environdec.com">info@environdec.com</a>
<b>CPC Code</b>	37990
<b>Geographical Scope</b>	Global
<b>EPD Owner</b>	JBH Soft Furnishings Ltd Invicta House Lower Ground Floor 108-114 Golden Lane London EC1Y 0TG

# Programme information

<b>Programme</b>	The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden <a href="http://www.environdec.com">www.environdec.com</a> <a href="mailto:info@environdec.com">info@environdec.com</a>
<b>Product Category Rules (PCR)</b>	Construction Products, 2019:14, Version 1.11
<b>Independent third-party verification of the declaration and data, according to ISO 14025:2006:</b>	✓ EPD process certification EPD verification
<b>Third party verifier</b>	Professor Vladimír Kocí
<b>Approved by</b>	The International EPD® System
<b>Procedure for follow-up of data during EPD validity involves third party verifier</b>	✓ Yes No

The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs for construction products are primarily intended for use in B2B communication, but their use in B2C communication under certain conditions is not precluded. For EPDs intended for B2C communication, refer to ISO 14025. EPDs of construction products may not be comparable if they do not comply with EN 15804.

# JBH:

## An introduction

JBH specialises in the design, manufacture and installation of a unique line of bespoke floor to ceiling acoustic solutions for commercial and residential projects, both internationally and within the United Kingdom. With a wealth of experience and a loyal client base, including Facebook, PricewaterhouseCoopers, KPMG, as well as maintaining a strong affiliation with the architectural and design community, JBH is adept at enhancing and utilising the space in a room to maximum effect. Their range of products such as Versa-Tile, Acoustic Baffles and Novawall Wall System are the very latest tried and tested methods, proven to effectively absorb and manage the acoustics within a given space, and as such, has placed JBH at the forefront of their industry.





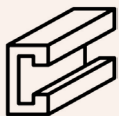


# Product information

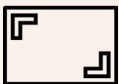
Acoustic Ceiling Panels (Versa-Tile) – JBH design and produce the highly effective Versa-Tile within the UK, a multi surface acoustic panel that achieves up to Class A sound absorption.

These panels comprise of acoustic core, constructed from fibre glass that are then placed inside an aluminium framework that contains plastic track inserts, otherwise known as the Novawall track system. To finish, the panels are covered with your personal choice of fabric or customised design and secured on the reverse of the panel to best compliment any environment. Installation is made via wire suspension, a hinge and push latch or magnet, depending upon the final design selected by the client.

## Technical Specifications



**Aluminium Frame**



**Plastic Track System**



**Textile Covering**



**Fibreglass Insulation**

The Acoustic Ceiling Panels (Versa-Tile) are free from substances of very high concern (SVHC). The product contains no substances from the REACH Candidate list of 19.01.2021.

# LCA information

## Functional unit

1 m<sup>2</sup> JBH Acoustic Ceiling Panels.

## Time Representativeness

2021

## Database(s) and LCA Software Used

Ecoinvent 3.6, SimaPro 9.1

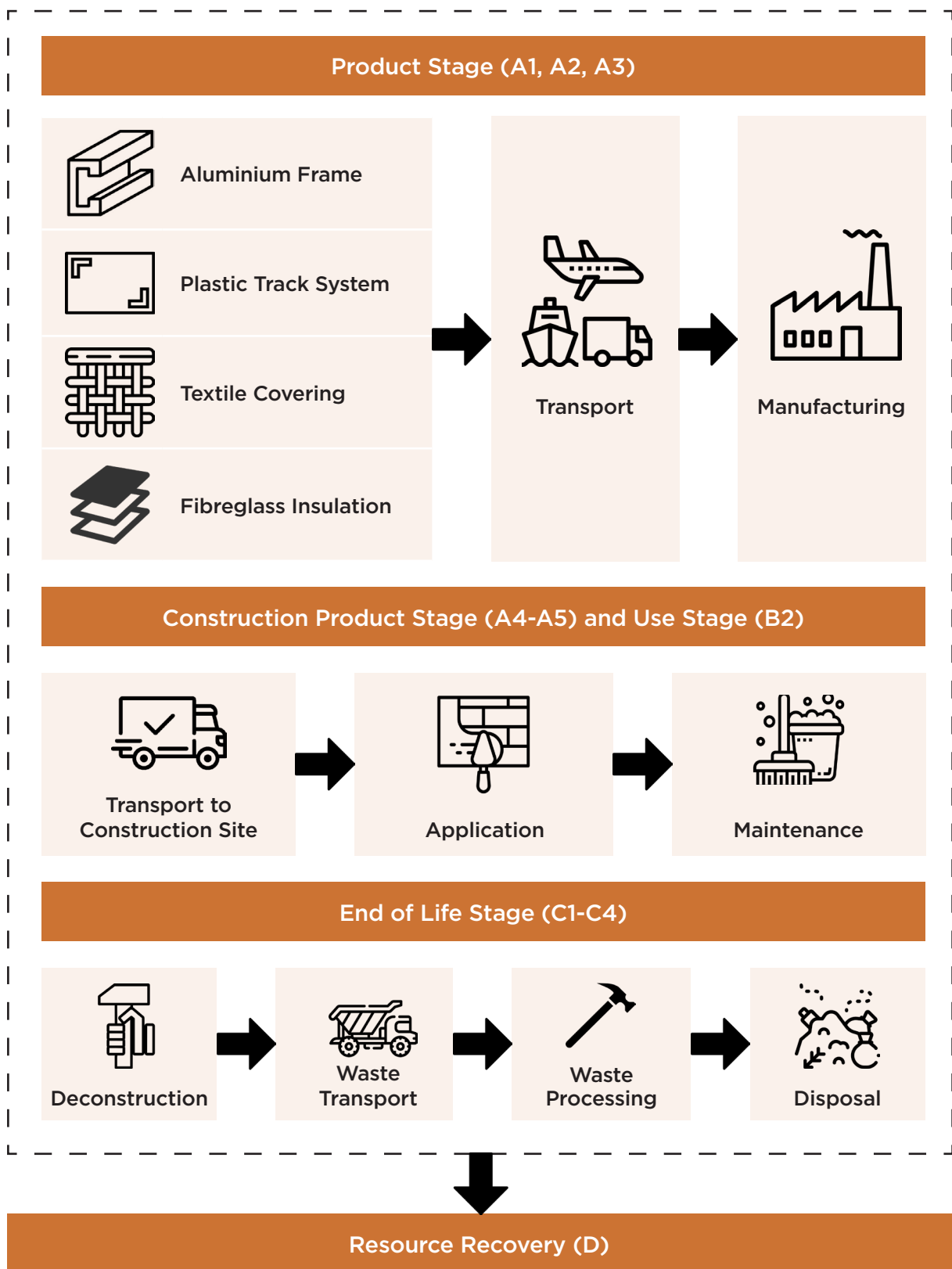
The inventory for the LCA study is based on the 2020 production figures for JBH production plant in United Kingdom.

This EPD's system boundary is cradle to grave. The system boundary covers A1 - A3 product stages, A4 - A5 construction, B1 - B7 use and C1 - C4 end of life and D stages.



✓	A1	Raw Material Supply	Upstream
✓	A2	Transport	Core
✓	A3	Manufacturing	
✓	A4	Transport	
✓	A5	Construction Installation	Downstream
✓	B1	Use	
✓	B2	Maintenance	
✓	B3	Repair	
✓	B4	Replacement	
✓	B5	Refurbishment	
✓	B6	Operational Energy Use	
✓	B7	Operational Water Use	
✓	C1	Deconstruction, demolition	
✓	C2	Transport	
✓	C3	Waste Processing	
✓	C4	Disposal	
✓	D	Future reuse, recycling or energy recovery potentials	Other Environmental Information

# Description of system boundary



--- System boundaries



# System description

## A1: Raw Material Supply

JBH supplies four main raw material from different industries, aluminium, plastic, fiberglass and textile. Each raw material consists of several production steps include raw material extraction/preparation and industrial production processes. Ceiling Panel consist of following raw materials: Aluminium frames, plastic tracking, fiberglass insulation, textile covering.

Aluminium frame has no recycled content and it is fully recyclable. Plastic track system made of PVC and has no recycled content. It is long lasting, formaldehyde free, fully recyclable and it has low VOC.

## A2: Transportation

Each raw material is provided from different regions of world. Aluminium frames are supplied from UK. Plastic tracks and fiberglass insulations are supplied from USA. Textile covering materials are supplied from different countries like, Sweden, Denmark, Netherlands, USA and UK. Each distance between countries is calculated at city level and urban transportation estimated according to city size.

## A3: Manufacturing

JBH process raw materials and assemble in desired design and dimensions. While manufacturing there is a small amount of raw material waste occurs and all wastes are sent out recycle facility.

## A4: Transport from the Gate to the Site

Transport of final product to construction site is taken as the weight average values for transport to customers in 2020.

### Transport Data (A2 and A4)

Vehicle Types	Transport, freight, lorry, unspecified
	Transport, freight, sea, transoceanic ship
	Transport, freight, aircraft
Data Type	Related transport data from Ecoivent 3.6



**A5: Assembly**

This stage includes the installation of wall covering to the construction site. There is no remarkable energy use during installation.

**B1: Use Stage**

There is no significant process along use phase.

**B2: Maintenance**

There is no need significant process for maintenance.

**B3: Repair**

Repair is not necessary in use.

**B4: Replacement**

Replacement is not necessary in use.

**B5: Refurbishment**

Refurbishment is not necessary in use.

**B6: Operational Energy Use**

No energy is used in operation.

**B7: Operational Water Use**

No water is used in operation.

**C1: Deconstruction and Demolition**

There is no energy use during uninstallation.

**C2: Transport**

Average distance from demolition site to waste processing site for final disposal is assumed as 70 km.

**C3: Waste Processing**

There is no need for any waste process.

**C4: Disposal**

Disposal is the final stage of product life. JBH Acoustic Ceiling Panels may dispose with any disposal scenario after construction and demolition as their final fate and modelled as such for this EPD. 7,5% of aluminium, 32.1% of PVC, 89% of textile material and 40.7% of fiberglass waste is sent to the landfill.

**D: Future Reuse, Recycling or Energy Recovery Potentials**

There is no additional process under this category.

**Additional Information**

The results of the LCA with the indicators as per EPD requirement are given in the LCA result tables. All energy calculations were obtained using Cumulative Energy Demand (LHV) methodology, while freshwater use is calculated with selected inventory flows in SimaPro according to the PCR.

There are no co-products in the production. Hence, there is no need for co-product allocation.

Energy consumptions and transports datasets were allocated based on the production figures in 2020 and the weighted averaged of environmental impacts for the JBH's products was presented.



# LCA results

JBH Acoustic Ceiling Panels



Environmental Impacts for 1 m <sup>2</sup> JBH Acoustic Ceiling Panels																			
Impact category	Unit	A1	A2	A3	A1+A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
<b>GWP - Fossil</b>	kg CO2 eq	2.36E+01	2.52E+00	1.20E+00	2.73E+01	4.07E-01	0	0	0	0	0	0	0	0	0	7.50E-02	0	1.67E-01	-1.17E+01
<b>GWP - Biogenic</b>	kg CO2 eq	4.82E+00	7.80E-04	5.96E-03	4.83E+00	1.18E-04	0	0	0	0	0	0	0	0	0	1.99E-05	0	2.47E+00	-4.68E-01
<b>GWP - Luluc</b>	kg CO2 eq	1.35E+00	3.14E-04	3.53E-04	1.35E+00	1.21E-04	0	0	0	0	0	0	0	0	0	2.23E-05	0	4.36E-05	-1.60E-01
<b>GWP - Total</b>	kg CO2 eq	2.97E+01	2.52E+00	1.20E+00	3.35E+01	4.07E-01	0	0	0	0	0	0	0	0	0	7.50E-02	0	2.64E+00	-1.24E+01
<b>ODP</b>	kg CFC11 eq	1.43E-06	5.74E-07	2.50E-08	2.03E-06	9.46E-08	0	0	0	0	0	0	0	0	0	1.74E-08	0	1.09E-08	-8.27E-07
<b>AP</b>	mol H+ eq	3.75E-01	1.70E-02	5.45E-03	3.97E-01	2.33E-03	0	0	0	0	0	0	0	0	0	4.29E-04	0	5.14E-04	-9.91E-02
<b>EP - Freshwater</b>	kg P eq	1.21E-02	9.36E-05	1.69E-04	1.23E-02	3.38E-05	0	0	0	0	0	0	0	0	0	6.20E-06	0	4.71E-05	-5.79E-03
<b>EP - Freshwater*</b>	kg PO4 eq	3.7E-02	28.6E-05	5.17E-04	3.76E-02	10.34E-05	0	0	0	0	0	0	0	0	0	18.97E-06	0	14.41E-05	-1.77E-02
<b>EP - Marine</b>	kg N eq	6.34E-02	4.95E-03	8.55E-04	6.92E-02	8.22E-04	0	0	0	0	0	0	0	0	0	1.51E-04	0	4.93E-03	-1.69E-02
<b>EP - Terrestrial</b>	mol N eq	1.38E+00	5.46E-02	9.23E-03	1.44E+00	9.03E-03	0	0	0	0	0	0	0	0	0	1.66E-03	0	1.38E-03	-2.77E-01
<b>POCP</b>	kg NMVOC eq	7.71E-02	1.48E-02	3.67E-03	9.56E-02	2.57E-03	0	0	0	0	0	0	0	0	0	4.73E-04	0	9.70E-04	-3.96E-02
<b>ADPE</b>	kg Sb eq	1.55E-03	7.44E-07	2.21E-07	1.55E-03	1.15E-06	0	0	0	0	0	0	0	0	0	2.11E-07	0	5.78E-08	-1.41E-03
<b>ADPF</b>	MJ	3.42E+02	3.65E+01	2.89E+01	4.07E+02	6.31E+00	0	0	0	0	0	0	0	0	0	1.16E+00	0	1.01E+00	-1.90E+02
<b>WDP</b>	m3 depriv.	2.44E+01	1.83E-01	4.25E-01	2.50E+01	4.49E-02	0	0	0	0	0	0	0	0	0	8.26E-03	0	3.56E-02	-1.32E+01
<b>PM</b>	disease inc.	2.62E-06	5.69E-08	3.32E-08	2.71E-06	3.69E-08	0	0	0	0	0	0	0	0	0	6.80E-09	0	5.91E-09	-6.64E-07
<b>IR</b>	kBq U-235 eq	3.26E+00	1.76E-01	2.02E-01	3.64E+00	3.03E-02	0	0	0	0	0	0	0	0	0	5.53E-03	0	6.46E-03	-1.96E+00
<b>ETP - FW</b>	CTUe	5.32E+02	1.98E+01	7.24E+00	5.59E+02	4.53E+00	0	0	0	0	0	0	0	0	0	8.37E-01	0	1.41E+01	-2.97E+02
<b>HTTP - C</b>	CTUh	1.49E-08	1.11E-09	1.85E-10	1.62E-08	1.72E-10	0	0	0	0	0	0	0	0	0	3.16E-11	0	8.79E-11	-8.83E-09
<b>HTTP - NC</b>	CTUh	6.86E-07	1.06E-08	6.20E-09	7.03E-07	5.76E-09	0	0	0	0	0	0	0	0	0	1.06E-09	0	4.26E-09	-4.48E-07
<b>SQP</b>	Pt	1.27E+03	6.64E+00	3.23E+00	1.28E+03	5.26E+00	0	0	0	0	0	0	0	0	0	9.66E-01	0	1.68E+00	-1.90E+02

### Acronyms

GWP-total: Climate change, GWP-fossil: Climate change- fossil, GWP-biogenic: Climate change - biogenic, GWP-luluc: Climate change - land use and transformation, ODP: Ozone layer depletion, AP: Acidification terrestrial and freshwater, EP-freshwater: Eutrophication freshwater, EP-marine: Eutrophication marine, EP-terrestrial: Eutrophication terrestrial, POCP: Photochemical oxidation, ADPE: Abiotic depletion - elements, ADPF: Abiotic depletion - fossil resources, WDP: Water scarcity, PM: Respiratory inorganics - particulate matter, IR: Ionising radiation, ETP-FW: Ecotoxicity freshwater, HTP-c: Cancer human health effects, HTP-nc: Non-cancer human health effects, SQP: Land use related impacts, soil quality.

### Legend

A1: Raw Material Supply, A2: Transport, A3: Manufacturing, A1+A3: Sum of A1, A2, and A3, A4: Transport to Site, A5: Installation, C1: De-Construction, C2: Waste Transport, C3: Waste Processing, C4: Disposal, D: Benefits and Loads Beyond the System Boundary.

**\*EP-freshwater:** This indicator has been calculated as “kg P eq” as required in the characterization model. (EUTREND model, Struijs et al, 2009b, as implemented in ReCiPe; <http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml>)

### Disclaimer 1

This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

### Disclaimer 2

The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.



Resource Use for 1 m <sup>2</sup> JBH Acoustic Ceiling Panels																			
Impact Category	Unit	A1	A2	A3	A1+A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	6.52E+01	2.29E-01	1.22E+00	6.67E+01	6.60E-02	0	0	0	0	0	0	0	0	0	1.19E-02	0	3.88E-02	-2.25E+01
PERM	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PERT	MJ	6.52E+01	2.29E-01	1.22E+00	6.67E+01	6.60E-02	0	0	0	0	0	0	0	0	0	1.19E-02	0	3.88E-02	-2.25E+01
PENRE	MJ	3.46E+02	3.65E+01	2.89E+01	4.12E+02	6.31E+00	0	0	0	0	0	0	0	0	0	1.16E+00	0	1.01E+00	-1.90E+02
PENRM	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.46E+02	3.65E+01	2.89E+01	4.12E+02	6.31E+00	0	0	0	0	0	0	0	0	0	1.16E+00	0	1.01E+00	-1.90E+02
SM	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FW	m3	5.27E-01	3.43E-03	3.15E-03	5.34E-01	1.19E-03	0	0	0	0	0	0	0	0	0	2.19E-04	0	8.36E-04	-1.76E-01

Waste & Output Flows for 1 m <sup>2</sup> JBH Acoustic Ceiling Panels																			
Impact Category	Unit	A1	A2	A3	A1+A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NHWD	kg	0	0	2.65E-02	2.65E-02	0	0	0	0	0	0	0	0	0	8.12E+00	0	0	0	0
RWD	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	2.56E-02	2.56E-02	0	0	0	0	0	0	0	0	0	0	0	6.06E+00	0	0
MER	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EE (Electrical)	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EE (Thermal)	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Acronyms: PERE: Use of renewable primary energy excluding resources used as raw materials, PERM: Use of renewable primary energy resources used as raw materials, PERT: Total use of renewable primary energy, PENRE: Use of non-renewable primary energy excluding resources used as raw materials, PENRM: Use of non-renewable primary energy resources used as raw materials, PENRT: Total use of non-renewable primary energy, SM: Secondary material, RSF: Renewable secondary fuels, NRSF: Non-renewable secondary fuels, FW: Net use of fresh water, HWD: Hazardous waste disposed, NHWD: Non-hazardous waste disposed, RWD: Radioactive waste disposed, CRU: Components for reuse, MFR: Material for recycling, MER: Materials for energy recovery, EE (Electrical): Exported energy electrical, EE (Thermal): Exported energy, Thermal.

Result per functional declared unit		
Biogenic Carbon Content	Unit	A1-A3
Biogenic carbon content in product	kg C	17,69
Biogenic carbon content in packaging	kg C	0,02

Note: It was assumed 50% of the wood packaging material is biogenic carbon.

# Additional information

For the North American market, environmental impacts were calculated with the TRACI 2.1 method as additional information. The results of the calculations taken with the same LCA model are given in the table below.



Environmental Impacts for 1 m² JBH Acoustic Ceiling Panels																			
Impact category	Unit	A1	A2	A3	A1+A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP	kg CO2 eq	2.88E+01	2.50E+00	1.12E+00	3.24E+01	4.02E-01	0	0	0	0	0	0	0	0	0	7.41E-02	0	1.40E+00	-1.21E+01
ODP	kg CFC-11 eq	1.74E-06	6.06E-07	3.63E-08	2.38E-06	1.00E-07	0	0	0	0	0	0	0	0	0	1.84E-08	0	1.18E-08	-1.00E-06
Smog	kg O3 eq	1.37E+00	3.15E-01	5.15E-02	1.74E+00	5.20E-02	0	0	0	0	0	0	0	0	0	9.57E-03	0	7.43E-03	-7.06E-01
AP	kg SO2 eq	2.60E-01	1.47E-02	4.52E-03	2.79E-01	2.06E-03	0	0	0	0	0	0	0	0	0	3.80E-04	0	5.04E-04	-7.59E-02
EP	kg N eq	1.41E-01	2.07E-03	1.43E-03	1.45E-01	4.83E-04	0	0	0	0	0	0	0	0	0	8.88E-05	0	1.87E-02	-5.30E-02
Carcinogenics	CTUh	1.53E-06	2.36E-08	4.58E-08	1.60E-06	1.25E-08	0	0	0	0	0	0	0	0	0	2.30E-09	0	6.31E-08	-8.92E-07
No Carcinogenics	CTUh	1.51E-05	1.14E-07	1.21E-07	1.54E-05	9.75E-08	0	0	0	0	0	0	0	0	0	1.80E-08	0	4.16E-06	-1.20E-05
RE	kg PM2.5 eq	2.51E-02	8.86E-04	3.59E-04	2.64E-02	2.79E-04	0	0	0	0	0	0	0	0	0	5.17E-05	0	7.84E-05	-8.54E-03
Ecotoxicity	CTUe	2.61E+02	2.63E+00	4.34E+00	2.68E+02	2.35E+00	0	0	0	0	0	0	0	0	0	4.32E-01	0	3.09E+02	-1.74E+02
FFD	MJ surplus	3.01E+01	5.38E+00	3.38E+00	3.89E+01	9.01E-01	0	0	0	0	0	0	0	0	0	1.66E-01	0	1.17E-01	-1.70E+01

## Acronyms

GWP: Global Warming Potential, ODP: Ozone Layer Depletion, AP: Acidification Potential, EP: Eutrophication Potential, RE: Respiratory Effects, FFD: Fossil fuel Depletion

## Legend

A1: Raw Material Supply, A2: Transport, A3: Manufacturing, A1-A3: Sum of A1, A2, and A3, A4: Transport to Site, A5: Installation, C1: De-Construction, C2: Waste Transport, C3: Waste Processing, C4: Disposal, D: Benefits and Loads Beyond the System Boundary.



# References

## **GPI**

General Programme Instructions of the International EPD® System. Version 3.0.

## **EN ISO 9001**

Quality Management Systems - Requirements

## **EN ISO 14001**

Environmental Management Systems - Requirements

## **ISO 45001**

Occupational Health & Safety Management System - Requirements

## **ISO 14020:2000**

Environmental Labels and Declarations — General principles

## **EN 15804:2012+A2:2019**

Sustainability of construction works - Environmental Product Declarations — Core rules for the product category of construction products

## **ISO 14025**

DIN EN ISO 14025:2009-11: Environmental labels and declarations - Type III environmental declarations — Principles and procedures

## **ISO 14040/44**

DIN EN ISO 14040:2006-10, Environmental management - Life cycle assessment - Principles and framework (ISO14040:2006) and Requirements and guidelines (ISO 14044:2006)

## **PCR for Construction Products and CPC 54 Construction Services**

Prepared by IVL Swedish Environmental Research Institute, Swedish Environmental Protection Agency, SP Trä, Swedish Wood Preservation Institute, Swedisol, SCDA, Svenskt Limträ AB, SSAB, The International EPD System, 2019:14 Version 1.1 DATE 2019-12-20

## **The International EPD® System**

The International EPD® System is a programme for type III environmental declarations, maintaining a system to verify and register EPD®s as well as keeping a library of EPD®s and PCRs in accordance with ISO 14025. [www.environdec.com](http://www.environdec.com)

## **Ecoinvent**

Ecoinvent Centre, [www.ecoinvent.org](http://www.ecoinvent.org)

## **SimaPro**

SimaPro LCA Software, Pré Consultants, the Netherlands, [www.pre-sustainability.com](http://www.pre-sustainability.com)



# Contact information

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## Programme



THE INTERNATIONAL EPD® SYSTEM

The International EPD® System

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## Programme Operator

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## Owner of the Declaration

JBH |

JBH Soft Furnishings Ltd  
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## LCA Practitioner



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## 3rd Party Verifier

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DESIGN  
MANUFACTURE  
INSTALLATION

Acoustic Ceiling Panels  
[www.jbhacoustics.com](http://www.jbhacoustics.com)