JBH

EPD®
THE INTERNATIONAL EPD® SYSTEM

ECO PLATFORM EPD EN 15804 VERIFIED

Acoustic Wall System

Environmental Product Declaration

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

Programme:	The International EPD® System, www.environdec.com
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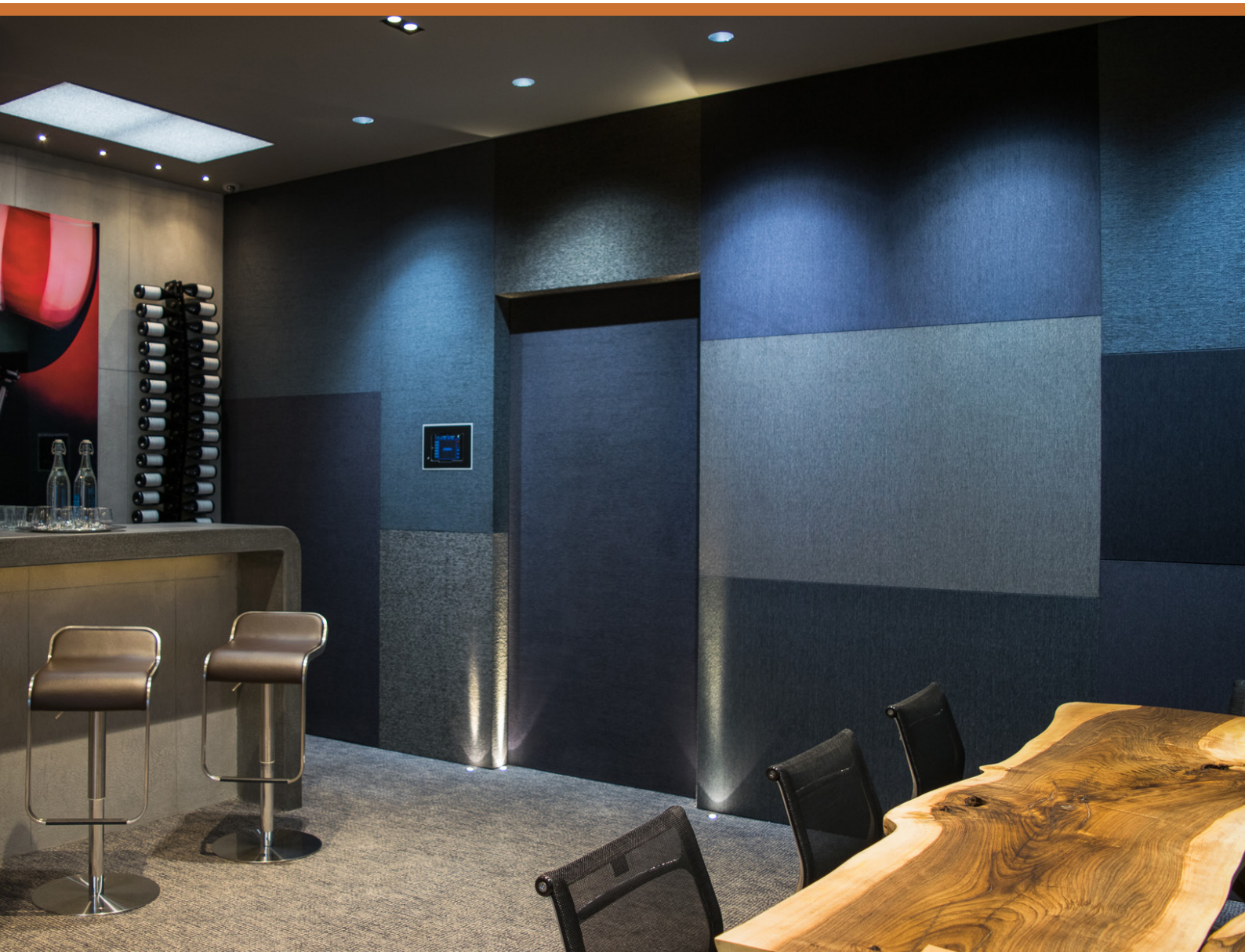
An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



Programme information

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

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)	Construction Products, 2019:14, Version 1.11
Independent third-party verification of the declaration and data, according to ISO 14025:2006:	EPD process certification ✔ EPD verification
Third party verifier	Professor Vladimír Kocí
Approved by	The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier	Yes ✔ No

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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 Novawall Wall System, Versa-Tile and Acoustic Baffles and 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

JBH design and produce the highly effective Novawall system that achieves up to Class A sound absorption.

Acoustic wall panels consist of an innovative plastic track system being secured directly to the wall in accordance with the required client pattern. The wall panel system comprises of acoustic core, constructed from fibre glass, a highly efficient material that is then placed inside a plastic framework, otherwise known as the Novawall track system. Once the fibreglass has been fitted to each section, the panels are covered with your personal choice of fabric or customised design ensuring that the fabric is secured on the reverse.

Technical Specifications	
	Plastic Track System
	Textile Covering
	Fibreglass Insulation

The JBH acoustic wall panels 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^2 JBH Acoustic Wall System.

Time Representativeness
2021

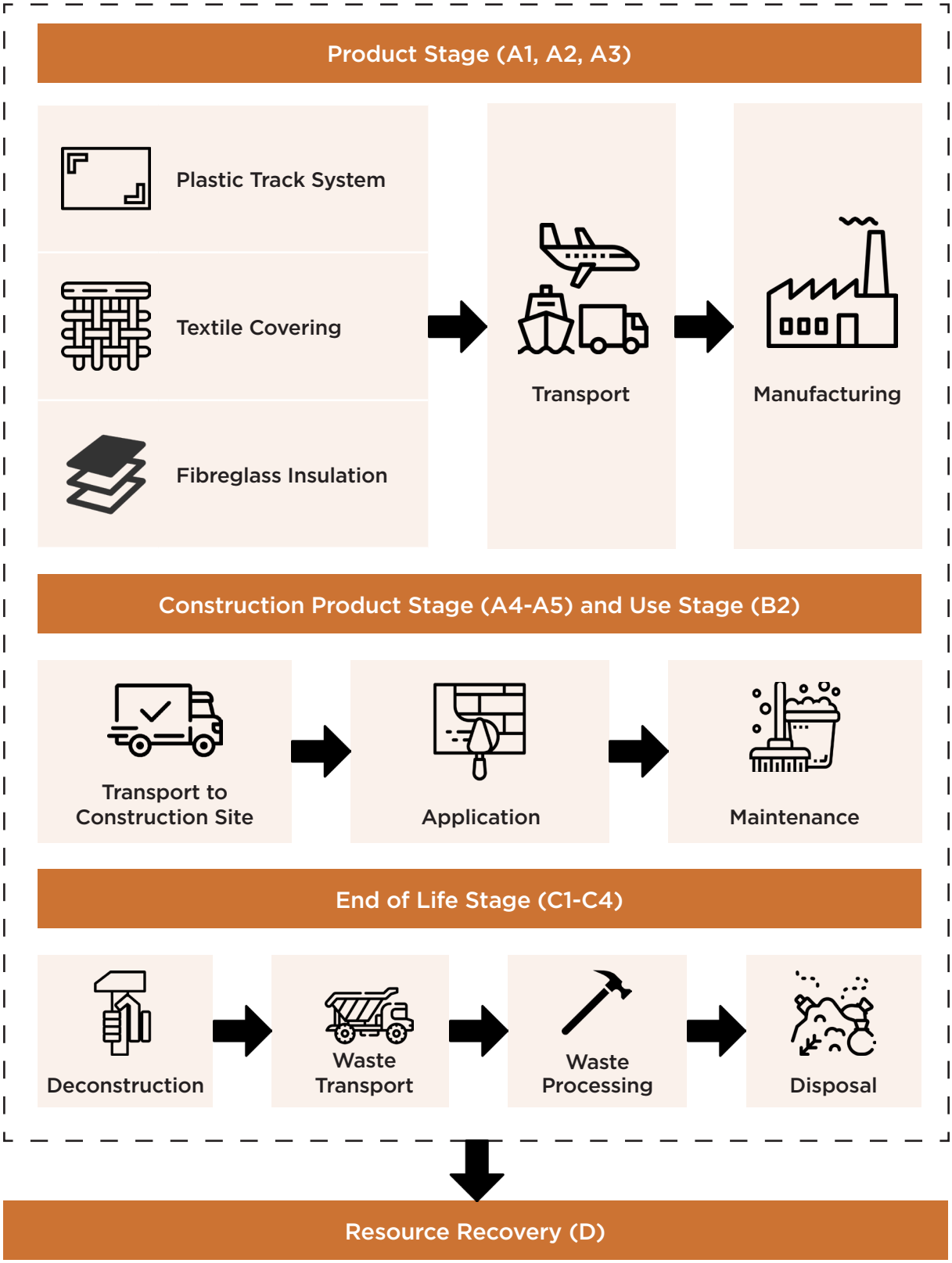
Database(s) and LCA Software Used
Ecoinvent 3.6, SimaPro 9.1

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	Downstream
✔	**A5**	Construction Installation	
✔	**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 three main raw material from different industries, plastic, fiberglass and textile. Each raw material consists of several production steps include raw material extraction/ preparation and industrial production processes. Acoustic Wall System consist of following raw materials: Plastic tracking, fiberglass insulation, textile covering.

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. 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 Wall System may dispose with any disposal scenario after construction and demolition as their final fate and modelled as such for this EPD. 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 Wall System

Environmental Impacts for 1 m² JBH Acoustic Wall System																			
Impact category	**Unit**	**A1**	**A2**	**A3**	**A1+A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP - Fossil	kg CO2 eq	1.88E+01	2.44E+00	8.86E-01	2.21E+01	2.02E-01	0	0	0	0	0	0	0	0	0	3.66E-02	0	1.59E-01	-5.91E+00
GWP - Biogenic	kg CO2 eq	5.75E+00	7.57E-04	-1.59E-01	5.59E+00	5.85E-05	0	0	0	0	0	0	0	0	0	9.69E-06	0	2.35E+00	-6.60E-01
GWP - Luluc	kg CO2 eq	1.57E+00	2.90E-04	1.38E-03	1.57E+00	5.99E-05	0	0	0	0	0	0	0	0	0	1.09E-05	0	4.15E-05	-1.74E-01
GWP - Total	kg CO2 eq	2.61E+01	2.44E+00	7.29E-01	2.93E+01	2.02E-01	0	0	0	0	0	0	0	0	0	3.66E-02	0	2.51E+00	-6.75E+00
ODP	kg CFC11 eq	9.92E-07	5.55E-07	3.78E-08	1.58E-06	4.69E-08	0	0	0	0	0	0	0	0	0	8.50E-09	0	1.03E-08	-3.50E-07
AP	mol H+ eq	3.83E-01	1.65E-02	4.81E-03	4.04E-01	1.15E-03	0	0	0	0	0	0	0	0	0	2.09E-04	0	4.89E-04	-6.67E-02
EP - Freshwater	kg P eq	8.92E-03	8.68E-05	2.28E-04	9.23E-03	1.67E-05	0	0	0	0	0	0	0	0	0	3.03E-06	0	4.48E-05	-2.05E-03
EP - Freshwater*	kg PO4 eq	27.29E-03	26.56E-05	6.98E-04	28.24E-03	5.11E-05	0	0	0	0	0	0	0	0	0	9.27E-06	0	13.7E-05	-6.28E-03
EP - Marine	kg N eq	6.54E-02	4.79E-03	8.27E-04	7.10E-02	4.07E-04	0	0	0	0	0	0	0	0	0	7.39E-05	0	4.68E-03	-1.21E-02
EP - Terrestrial	mol N eq	1.49E+00	5.27E-02	8.94E-03	1.55E+00	4.47E-03	0	0	0	0	0	0	0	0	0	8.11E-04	0	1.31E-03	-2.22E-01
POCP	kg NMVOC eq	6.51E-02	1.43E-02	3.10E-03	8.25E-02	1.27E-03	0	0	0	0	0	0	0	0	0	2.31E-04	0	9.23E-04	-2.42E-02
ADPE	kg Sb eq	4.37E-05	5.09E-07	3.88E-07	4.46E-05	5.69E-07	0	0	0	0	0	0	0	0	0	1.03E-07	0	5.50E-08	-1.95E-05
ADPF	MJ	2.67E+02	3.52E+01	2.10E+01	3.23E+02	3.13E+00	0	0	0	0	0	0	0	0	0	5.67E-01	0	9.62E-01	-1.04E+02
WDP	m3 depriv.	2.01E+01	1.74E-01	4.10E-01	2.07E+01	2.22E-02	0	0	0	0	0	0	0	0	0	4.03E-03	0	3.39E-02	-8.05E+00
PM	disease inc.	2.71E-06	4.93E-08	3.60E-08	2.80E-06	1.83E-08	0	0	0	0	0	0	0	0	0	3.32E-09	0	5.62E-09	-4.71E-07
IR	kBq U-235 eq	2.08E+00	1.70E-01	2.19E-01	2.47E+00	1.50E-02	0	0	0	0	0	0	0	0	0	2.70E-03	0	6.14E-03	-7.14E-01
ETP - FW	CTUe	3.26E+02	1.89E+01	1.87E+01	3.64E+02	2.24E+00	0	0	0	0	0	0	0	0	0	4.09E-01	0	1.34E+01	-7.74E+01
HTTP - C	CTUh	1.11E-08	1.08E-09	2.22E-10	1.24E-08	8.50E-11	0	0	0	0	0	0	0	0	0	1.54E-11	0	8.36E-11	-4.75E-09
HTTP - NC	CTUh	4.62E-07	9.47E-09	8.30E-09	4.80E-07	2.85E-09	0	0	0	0	0	0	0	0	0	5.18E-10	0	4.05E-09	2.19E-07
SQP	Pt	1.42E+03	5.57E+00	2.93E+01	1.46E+03	2.60E+00	0	0	0	0	0	0	0	0	0	4.72E-01	0	1.60E+00	-1.63E+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.

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.

***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)

Resource Use for 1 m² JBH Acoustic Wall System																		
Impact Category	**Unit**	**A1**	**A2**	**A3**	**A1+A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	5.82E+01	2.16E-01	5.59E+00	6.40E+01	3.27E-02	0	0	0	0	0	0	0	0	0	5.83E-03	0	3.69E-02	-9.96E+00
PERM	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PERT	MJ	5.82E+01	2.16E-01	5.59E+00	6.40E+01	3.27E-02	0	0	0	0	0	0	0	0	0	5.83E-03	0	3.69E-02	-9.96E+00
PENRE	MJ	2.72E+02	3.52E+01	2.10E+01	3.29E+02	3.13E+00	0	0	0	0	0	0	0	0	0	5.67E-01	0	9.62E-01	-1.05E+02
PENRM	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.72E+02	3.52E+01	2.10E+01	3.29E+02	3.13E+00	0	0	0	0	0	0	0	0	0	5.67E-01	0	9.62E-01	-1.05E+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	4.79E-01	3.19E-03	5.39E-03	4.87E-01	5.89E-04	0	0	0	0	0	0	0	0	0	1.07E-04	0	7.96E-04	-8.04E-02

Waste & Output Flows for 1 m² JBH Acoustic Wall System																			
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	5.25E-03	5.25E-03	0	0	0	0	0	0	0	0	0	3.96E+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	5.25E-03	5.25E-03	0	0	0	0	0	0	0	0	0	0	0	2.15E+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	21.08
Biogenic carbon content in packaging	kg C	-0.58

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 Wall System																		
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	2.51E+01	2.42E+00	8.45E-01	2.84E+01	1.99E-01	0	0	0	0	0	0	0	0	0	3.62E-02	0	1.33E+00	-6.51E+00
ODP	kg CFC-11 eq	1.20E-06	5.86E-07	5.10E-08	1.84E-06	4.96E-08	0	0	0	0	0	0	0	0	0	3.62E-02	0	1.33E+00	-6.51E+00
Smog	kg O3 eq	1.14E+00	3.05E-01	4.82E-02	1.49E+00	2.57E-02	0	0	0	0	0	0	0	0	0	4.67E-03	0	7.07E-03	-4.12E-01
AP	kg SO2 eq	2.59E-01	1.43E-02	4.01E-03	2.77E-01	1.02E-03	0	0	0	0	0	0	0	0	0	1.86E-04	0	4.79E-04	-4.89E-02
EP	kg N eq	1.22E-01	1.97E-03	1.87E-03	1.26E-01	2.39E-04	0	0	0	0	0	0	0	0	0	4.34E-05	0	1.78E-02	-2.25E-02
Carcinogenic	CTUh	1.07E-06	2.11E-08	4.35E-08	1.13E-06	6.19E-09	0	0	0	0	0	0	0	0	0	1.12E-09	0	6.00E-08	-3.94E-07
Non carcinogenic	CTUh	4.71E-06	9.44E-08	2.49E-07	5.05E-06	4.83E-08	0	0	0	0	0	0	0	0	0	8.77E-09	0	3.95E-06	-2.14E-06
RE	kg PM2.5 eq	2.33E-02	8.30E-04	4.49E-04	2.46E-02	1.38E-04	0	0	0	0	0	0	0	0	0	2.52E-05	0	7.46E-05	-4.48E-03
Ecotoxicity	CTUe	1.30E+02	2.15E+00	4.57E+00	1.37E+02	1.16E+00	0	0	0	0	0	0	0	0	0	2.11E-01	0	2.94E+02	-4.32E+01
FFD	MJ surplus	2.47E+01	5.20E+00	2.13E+00	3.20E+01	4.46E-01	0	0	0	0	0	0	0	0	0	8.10E-02	0	1.12E-01	-1.07E+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

Ecoinvent

Ecoinvent Centre, www.ecoinvent.org

SimaPro

SimaPro LCA Software,
Pré Consultants, the Netherlands,
www.pre-sustainability.com

Contact information

Programme	The International EPD® System www.environdec.com
Programme Operator	EPD International AB Box 210 60 SE-100 31 Stockholm, Sweden www.environdec.com info@environdec.com
Owner of the Declaration	JBH Soft Furnishings Ltd Invicta House Lower Ground Floor 108-114 Golden Lane London EC1Y 0TG **Contact** Ben Hamilton Director +44 (0) 7572 271443 ben@jbhacoustics.com
LCA Practitioner	Metsims Limited 4 Clear Water Place Oxford OX2 7NL, UK 0 800 722 0185 www.metsims.com info@metsims.com
3rd Party Verifier	Professor Vladimír Kocí LCA Studio Šárecká 5,16000, Prague 6 Czech Republic, www.lcastudio.cz

JBH

DESIGN
MANUFACTURE
INSTALLATION

Acoustic Ceiling Panels

www.jbhacoustics.com