

Environmental Product Declaration



In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Acoustic Aluminium Panel ('TIMBER EFFECT' slats)

from

BCL Timber Projects LTD



Programme:

Programme operator:

EPD registration number:

Publication date:

Valid until:

The International EPD® System, www.environdec.com

EPD International AB

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General information

Programme information

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

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR 2019:14 version 1.3.4 Construction products 2024-04-30, c-PCR-014 Acoustical ceiling and wall solutions version 2024-04-30
PCR review was conducted by: PCR review was conducted by: The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact
Life Cycle Assessment (LCA)
LCA accountability: Callum Hill, JCH Industrial Ecology Ltd
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: Andrew Norton, Renuables Ltd 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 registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: BCL Timber Projects LTD

Contact: Brian Barrett / Nick Barrett

Description of the organisation: Manufacturer of Wall & Ceiling Panel Systems

Product-related or management system-related certifications: FSC Certified (TT-CoC-006412), PEFC Certified (BMT-PEFC-CoC-1589), GiB Certified (GIB-CoC-AC-5160), ISO9001 accreditation (GB04/62557).

Name and location of production site(s): BCL (UK), The Old Byre, Oakley Farm, Pound Lane, Hurst, Berkshire, RG10 0RS, UK

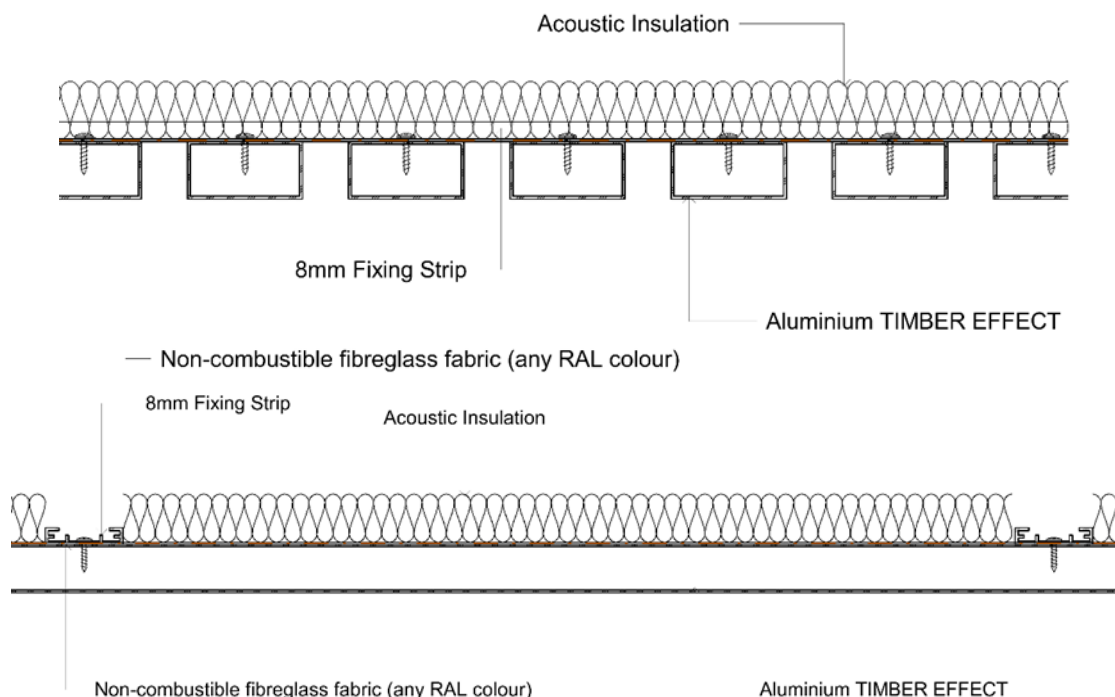
Product information

Product name: BCL Acoustic Aluminium TIMBER EFFECT Panel (aluminium slats)

Product identification: BCL 'stock' acoustic Aluminium TIMBER EFFECT panel, using hollow box aluminium slats + Polyurethane powder coating and 'timber grain' sublimation effect, fibreglass acoustic fabric, insulation layer and PPC Aluminium support rails – formed into panels approximately 600x3000mm (but can vary in size).

Product description: Acoustic Aluminium 'TIMBER EFFECT' Panel, fully prefabricated, including woven fibreglass acoustic fabric, 20mm rigid insulation layer - into a composite acoustic panel for wall & ceilings, including basic support grid for internal wall installation. (note additional support grids may vary – contact BCL for more information).

- Class C acoustic rating (ISO 11654)
- Class A2-s2, d0 fire classification (EN13501-1)
- 30 Year Warranty
- Expected Service Life 50+ years



UN CPC code: 316

Geographical scope: UK

LCA information

Functional unit / declared unit: 1 m²

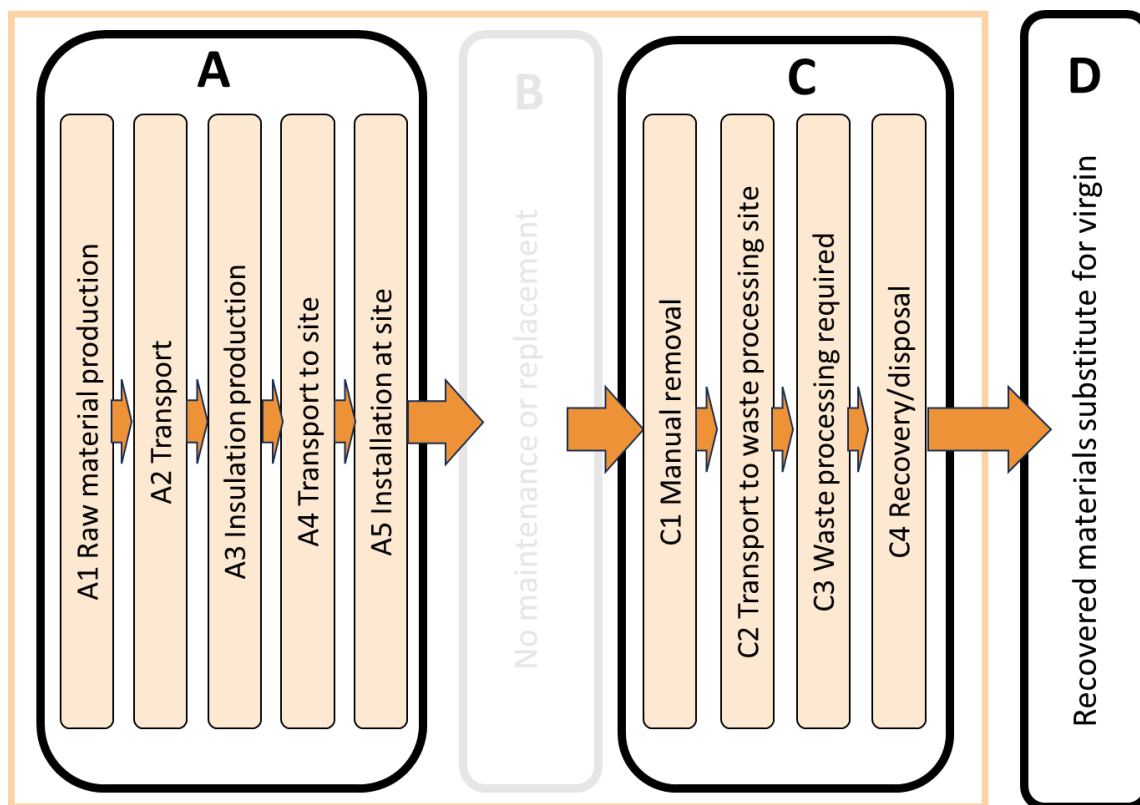
Reference service life: 50+ years

Time representativeness: 2024

Database(s) and LCA software used: Ecoinvent 3.10 Simapro 9.6

Description of system boundaries: Cradle to gate with options, modules C1–C4, module D and with optional modules, covering A1-A5+C+D

System diagram:



More information:

EF3.1 was used for all impact characterisation factors, except: CED for Primary energy resources renewable used as energy carrier (PERE) and primary energy resources non-renewable used as an energy carrier (PENRE) and AWARE for water scarcity potential. Primary energy resources renewable as materials (PERM) and primary energy resources non-renewable material (PENRM) are based on lower heating values with the data access from the Phyllis 2 database. <https://phyllis.nl/>

More information on BCL's panel systems can be found at <https://bcltimberprojects.co.uk/>

Note all calculations are based on supply of panels including basic support grid for internal wall installation → additional fixings and support grids required for wall and ceilings applications can vary.

We recommend contacting BCL directly for information on any additional LCA allowances for support grids that may be required for your system / project.

Information regarding life cycle modules:

Modules A1-A3: Extraction, production and processing of materials, transport to manufacturing site at BCL and production of panel at BCL site. Allocation of site energy, utilities, etc. on the basis of area of panels produced over the one-year production period analysed. Packaging of the product uses a timber pallet and an oriented strand board crate, both of which are returned to the production site. Polyethylene wrapping is also used. All impacts biogenic carbon associated with the packaging is included in A1-A3.

Module A4: Transportation distance of 150 km to installation site by HGV.

Module A5: Materials required for installation per square metre of panel: 0.938 kg softwood battens (25 x 50 mm) @ 600 mm centres, 0.511 kg stainless steel screws. Manual installation. Wall installation assumed, contact BCL for further information. Timber pallet and OSB crate returned to manufacturing site (150 km) and it is assumed that these items are used five times before final disposal. Biogenic carbon associated with the packaging is lost from the system in module A5. Polyethylene wrapping is disposed of to landfill (transport distance 50 km). Stainless steel screws are used to mount the cladding unit (0.011 kg per m² of cladding unit). There is no waste generated onsite due to installation.

Modules B1-B7: Modules not declared, no maintenance required.

Module C1: Manual demounting and disassembly assumed.

Module C2: Transport of waste to a landfill, recycling, or incineration facility of 100 km is assumed using heavy goods vehicle.

Module C3: No additional processing is required.

Module C4: Components that are not recycled, or incinerated, such as mineral wool insulation and metal fixings, are sent to landfill as inert waste, polymers are assumed to be incinerated but without energy recovery. Wood waste is incinerated with heat recovery, with the thermal energy exported from the system. Large metal components are sent for recycling.

Module D: Aluminium waste is recycled and replaces virgin aluminium, steel components are recycled via steel production in an electric arc furnace and replace virgin steel (mixed production). Thermal energy exported in module C4 from burning of wood waste is used to substitute for heating using natural gas as a fuel source.

The use of the results of modules A1-A3 should be used with caution if the results of module C are not taken into consideration. Cut off criteria were based upon input flows being less than 1% of the total individually, subject to the sum of all flows being less than 5% of the total, subject to verification that the impacts associated with such flows were not of a magnitude to affect the reported data significantly (less than 5% in total).

The scenarios included are currently in use and are representative.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	UK	UK	UK	UK	UK	-	-	-	-	-	-	-	UK	UK	UK	UK	UK
Specific data used	90%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	0% (single product)			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0% (single site)			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Content information (including information on biogenic carbon content of the product and packaging at exit from factory gate) Per m² of panel

Product content	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
Coated aluminium slats	7.7	32.0	0	0
Membrane Fabric (woven fibreglass)	0.3	0.0	0	0
20mm mineral fibre insulation	3.2	0.0	<0.1	0.003
Coated aluminium support rails	0.6	1.5	0	0
Aluminium fixing grid	0.9	2.5	0	0
Stainless Steel screw fixings	0.05	0.0	0	0
TOTAL	12.8	36.0	<0.1	0.003

Packaging materials	Weight, kg	Weight-% (versus the product)	Biogenic material, kg C/product or declared unit
Timber pallet*	0.16*	1.3	0.093*
Timber frame for crate*	0.015*	<0.1	0.007*
Oriented strand board crate*	0.25*	2.0	0.125*
Polyethylene wrapping	0.023	<0.1	0.00
TOTAL	2.28	17.8	0.225

*The timber materials are returned to the manufacturing site and used for an average of five deliveries.
 Note: 1 kg biogenic carbon is equivalent to 44/12 kg of CO₂

The biogenic carbon content in the product arises due to the small amount of bio-based binder used in the mineral wool insulation. This is reported as a negative emission in the A1-A3 modules which represents a flow from the atmosphere during photosynthesis. The balancing emission for this is shown as a positive emission in module C4. For the packaging, the biogenic carbon content is associated with the wood in the pallet, the oriented strand board crate and the timber frame for the crate. This is shown as a negative emission in modules A1-A3 and a positive emission in module A5. Because these items of packaging are used five times on average, the values recorded per FU are 1/5 of the totals. The biogenic carbon information is summarised below.

Item	Biogenic carbon (kgC)	Biogenic carbon (kgCO ₂ e)
Declared product	0.003	0.013
Packaging	0.225	0.859

Note: The biogenic carbon values in this table may not match the GWP-biogenic values reported in the section 'Results of environmental indicators', since the GWP-biogenic data also reports on emissions from various processes and there may also be rounding errors.

The product does not contain any dangerous substances from the candidate list of SVHC for Authorisation.

Environmental Information

This EPD contains information about environmental impact, use of resources and waste production in the form of quantitative indicators. The following abbreviations and have been used in the tables which quantify environmental performance:

Indicator	Abbreviation
Global warming potential (Fossil, biogenic, land use and transformation (LUT))	GWP
Depletion potential of the stratospheric ozone layer	ODP
Acidification potential	AP
Eutrophication potential	EP
Formation potential of tropospheric ozone	POCP
Abiotic depletion potential – Elements	ADPE
Abiotic depletion potential – Fossil resources	ADPF
Water scarcity potential	WSP
Primary energy resources – Renewable (use as energy carrier)	PERE
Primary energy resources – Renewable (use raw materials)	PERM
Primary energy resources – Renewable (total)	PERT
Primary energy resources – Non-renewable (use as energy carrier)	PENRE
Primary energy resources – Non-renewable (use raw materials)	PENRM
Primary energy resources – Non-renewable (total)	PENRT
Secondary material	SM
Renewable secondary fuels	RSF
Non-renewable secondary fuels	NRSF
Net use of fresh water	NUFW
Hazardous waste disposed	HWD
Non-hazardous waste disposed	NHWD
Radioactive waste disposed	RWD
Components for re-use	CRU
Material for recycling	MFR
Materials for energy recovery	MFER
Exported energy, electricity	EEE
Exported energy, thermal	EET
Particulate Matter emissions	PM
Ionizing radiation, human health	IRP
Eco-toxicity - freshwater	ETP-fw
Human toxicity, cancer effect	HTP-c
Human toxicity, non-cancer effects	HTP-nc
Land use related impacts/Soil quality	SQP

Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804

Results per m ² Acoustic Panel									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	4.48E+01	2.99E-01	1.30E-01	0.00E+00	2.18E-01	0.00E+00	6.05E-01	-1.87E+02
GWP-fossil	kg CO ₂ eq.	4.41E+01	2.99E-01	1.28E-01	0.00E+00	2.18E-01	0.00E+00	5.92E-01	-1.87E+02
GWP-biogenic	kg CO ₂ eq.	-4.43E-01	7.22E-05	8.60E-01	0.00E+00	5.28E-05	0.00E+00	1.26E-02	3.33E-02
GWP-luluc	kg CO ₂ eq.	1.19E+00	1.24E-04	8.48E-05	0.00E+00	9.06E-05	0.00E+00	5.62E-06	-2.50E-02
ODP	kg CFC 11 eq.	1.67E-06	5.60E-08	9.07E-09	0.00E+00	4.09E-08	0.00E+00	7.52E-10	-6.83E-07
AP	mol H ⁺ eq.	6.90E-02	9.31E-04	5.81E-04	0.00E+00	6.80E-04	0.00E+00	2.24E-04	-1.73E+00
EP-freshwater	kg P eq.	9.32E-03	2.43E-05	3.15E-05	0.00E+00	1.78E-05	0.00E+00	2.26E-06	-9.00E-02
EP-marine	kg N eq.	3.23E-02	1.77E-04	1.08E-04	0.00E+00	1.29E-04	0.00E+00	1.17E-04	-2.29E-01
EP-terrestrial	mol N eq.	3.21E-01	1.92E-03	1.14E-03	0.00E+00	1.40E-03	0.00E+00	1.09E-03	-2.33E+00
POCP	kg NMVOC eq.	1.41E-01	7.59E-04	3.85E-04	0.00E+00	5.55E-04	0.00E+00	2.97E-04	-7.11E-01
ADP-minerals&metals*	kg Sb eq.	2.76E-04	7.97E-07	1.89E-06	0.00E+00	5.82E-07	0.00E+00	3.16E-08	8.78E-04
ADP-fossil*	MJ	5.56E+02	4.53E+00	1.64E+00	0.00E+00	3.31E+00	0.00E+00	2.37E-01	-1.88E+03
WDP*	m ³	2.82E+01	2.84E-02	4.26E-03	0.00E+00	2.08E-02	0.00E+00	3.13E-03	0.00E+00

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Additional mandatory and voluntary impact category indicators

Results per m ² Acoustic Panel									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	4.52E+01	2.99E-01	1.28E-01	0.00E+00	2.18E-01	0.00E+00	5.92E-01	-1.87E+02

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.

Resource use indicators

Results per m ² Acoustic Panel									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	3.12E+02	6.55E-02	2.12E-01	0.00E+00	4.79E-02	0.00E+00	5.48E-03	-1.14E+01
PERM	MJ	4.67E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	3.17E+02	6.55E-02	2.12E-01	0.00E+00	4.79E-02	0.00E+00	5.48E-03	-1.14E+01
PENRE	MJ	6.24E+02	4.91E+00	1.77E+00	0.00E+00	3.59E+00	0.00E+00	2.55E-01	-1.99E+03
PENRM	MJ	1.67E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	6.25E+02	4.91E+00	1.77E+00	0.00E+00	3.59E+00	0.00E+00	2.55E-01	-1.99E+03
SM	kg	5.37E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	1.98E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Waste indicators

Results per m ² Acoustic Panel									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
HWD	kg	5.21E-04	2.69E-06	3.04E-06	0.00E+00	1.96E-06	0.00E+00	1.49E-06	7.19E-02
NHWD	kg	3.23E+00	2.81E-01	7.19E-02	0.00E+00	2.05E-01	0.00E+00	3.56E+00	-3.03E+00
RWD	kg	2.27E-03	3.17E-05	6.33E-06	0.00E+00	2.32E-05	0.00E+00	6.98E-08	-2.31E-03

Output flow indicators

Results per m ² Acoustic Panel									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
CFR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	8.69E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E+01	0.00E+00	0.00E+00
MFER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.45E-01	0.00E+00
EE-E	MJ	1.28E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-T	MJ	2.30E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Additional environmental information

Note additional support grids, projection from substrate etc. may require additional grid or fixings. (contact BCL for more information).

For 'end-of-life' recycling, panels can easily be removed (unscrewed from fixings / substrate) and then further dis-assembled via mechanical removal of screws. BCL offer a direct system recycling program and can dismantle / reclaim all panels and grid at end of life, on request.

BCL maintain strict procurement policies for all materials, including anti-slavery, anti-corruption and anti-bribery.

Our Aluminium and other components are manufactured at the A1 stage using renewable energy sources – for more information, please contact BCL.

The biogenic carbon stored in the product is associated with the bonding resin used for the mineral wool insulation product, the balancing emission is in module C4, although the quantity involved is insignificant. The biogenic carbon stored in the packaging has a balancing emission in module A5.

UK electricity grid primary energy mix based upon 2024 average.

Primary energy	%
Gas	32
Wind	29.4
Nuclear	14.2
Biomass	5
Coal	1
Solar	4.9
Imports	10.7
Hydro	1.8
Storage	1
TOTAL	100

GWP impact of this grid mix = 0.227 kgCO₂e/kWh

References

General Program Instructions of the International EPD® System. Version 5.0. (Published 2024-06-19)
 PCR 2019:14 version 1.3.4 Construction products. (2024-04-30)
 c-PCR-014 Acoustical ceiling and wall solutions version 2024-04-30
 EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.
 EN16449:2014 Wood and wood-based products - Calculation of the biogenic carbon content of wood and conversion to carbon dioxide.
 ISO 14025:2006 Environmental labels and declarations — Type III environmental declarations - Principles and procedures.
 ISO 21930:2017 Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services

