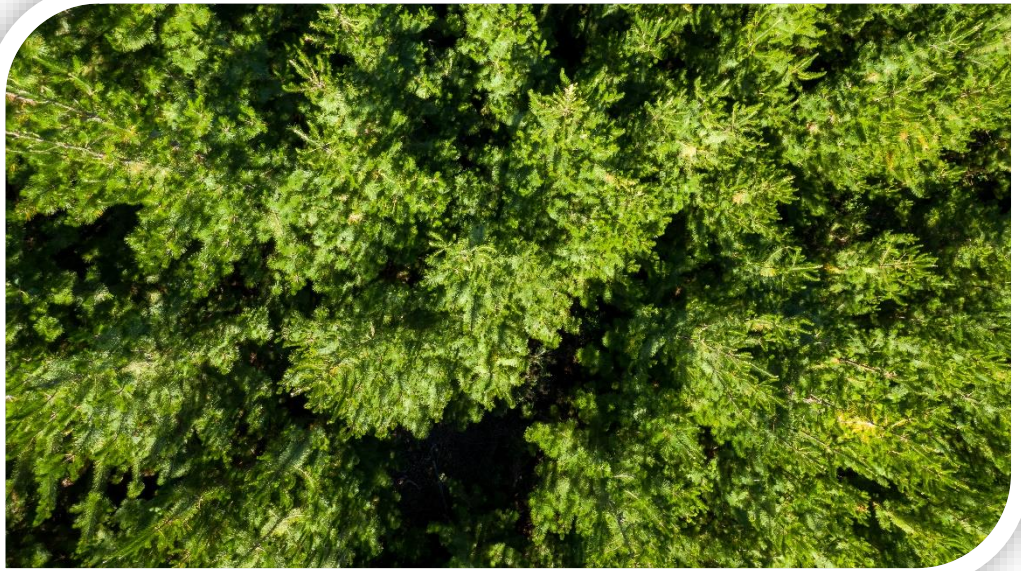
ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

LAMINATED VENEER LUMBER (LVL)

NelsonPine Laminated Veneer Lumber LVL®

Nelson Pine Industries Ltd



EPD HUB, HUB-0173

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Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Nelson Pine Industries Ltd
Address	520 Lower Queen Street, Richmond, New Zealand
Contact details	nelsonpine@nelsonpine.co.nz
Website	https://www.nelsonpine.co.nz/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Deon Eden
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal certification ☑ External verification
EPD verifier	E.A as an authorized verifier acting for EPD Hub Limited

The manufacturer 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 and if they are not compared in a building context.

PRODUCT

Product name	NelsonPine® LVL
Additional labels	NP Frame LVL 8 NP Frame LVL 11 NP Frame LVL 13 NP Form LVL 9 NP Form LVL 11 NP Boxxa NP Plank
Product reference	-
Place of production	New Zealand
Period for data	2021
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	- %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1m3
Declared unit mass	570 kg
GWP-fossil, A1-A3 (kgCO2e)	1.44E2
GWP-total, A1-A3 (kgCO2e)	-7.97E2
Secondary material, inputs (%)	0.0662
Secondary material, outputs (%)	25.0
Total energy use, A1-A3 (kWh)	3420.0
Total water use, A1-A3 (m3e)	1.86E0

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Nelson Pine Industries Limited (NPIL) produces award-winning wood products for customers in New Zealand and across the world. NPIL makes two high performance building materials – Medium Density Fibreboard (MDF) and Laminated Veneer Lumber (LVL) – that slots right into our high-tech age. Using a sustainable resource, we can supply the material to construct multi-story buildings out of LVL, and fit them out with panels, flooring components and furniture made of MDF. GoldenEdge® MDF and NelsonPine® LVL are recognised as leading brands in New Zealand and in global export markets.

Our manufacturing facilities are operated with an integrated management system, which is certified in accordance with FSC Chain of Custody, quality management (ISO 9001), environmental management (ISO 14001), and health and safety (ISO 45001) requirements.

PRODUCT DESCRIPTION

NelsonPine® LVL is a structural engineered wood product manufactured from rotary peeled veneers, assembled with parallel grain orientation and bonded with a structural adhesive. NelsonPine® LVL is available in a variety of sizes and lengths, and offer a range of products from Scaffold Planks and Formwork to framing and large sections utilised in the structure of the building. Our products are used across residential, commercial, industrial and construction applications.

As an engineered wood product, it is an aesthetically-pleasing, high performance construction product, and can be supplied as a prefabricated component to facilitate off-site manufacture and modular construction methods which reduce waste and save time. NelsonPine® LVL provides a higher strength to weight ratio than concrete and steel, as well as the environmental benefits of wood.

NelsonPine® LVL provides a consistent, high-performance alternative to solid lumber and steel in structural uses. Built up with a specific sequence of structurally graded veneer sheets, the finished product displays less variability and more predictable performance than sawn timber. LVL is manufactured to achieve consistent strength, stiffness and stability.

Further information can be found at https://www.nelsonpine.co.nz

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	-	-
Minerals	-	-
Fossil materials	6	New Zealand
Bio-based materials	94	New Zealand

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	239.7
Biogenic carbon content in packaging, kg C	-

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m^3
Mass per declared unit	570 kg (moisture content 13%)
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	MND	MND	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

A1: Raw materials include the extraction and processing before production. This covers the forestry operations, processing of raw materials, glue production, and the generation of electricity or heat from primary resources. NPIL holds FSC® Chain of Custody Certification. All our logs are purchased from sustainably managed forests. LVL is packed as per shipping requirements, usually using steel strapping and plastic wrap.

A2: Our raw material is transported by trucks, sourced from sustainably managed forests.

A3: The manufacturing stage covers the production of LVL and by-products. Packaging and wastes of this process are also counted. By-products include process waste such as bark, offcuts and sawdust which are used for energy recovery in our own manufacturing process. Wood-chips are also recovered and used in the manufacturing of MDF on site.

TRANSPORT AND INSTALLATION (A4-A5)

This EPD does not cover the transport and installation phase.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

At the end of its useful life, a timber product is removed and can have several end of life scenario options. Because of the uncertainties surrounding waste disposal practices in the future due to changes in available technology, waste legislation and consumer behaviour, exact methods of disposal at the end of the lifetime of the LVL products is hard to determine.

In this EPD, four possible end of life scenarios have been included with a percentage for each based on New Zealand end of life scenarios. Energy considered for demolition of building (C1) is considered negligible in all scenarios.

Reuse (5%): The product is assumed to be removed from a building manually and reused with no further processing (i.e. direct reuse).
C1: Demolition of building. C2: Transportation to the processing facility (assumed 25km). C3: Preparing for reuse. C4: Products for reuse.
D: Reuse of product, substituting virgin material.

Recycling (10%): Timber can be recycled in many different ways. In this scenario, the waste wood is chipped for future use.
C1: Demolition of the building. C2: Transportation to the processing facility (assumed 25km). C3: Preparing for recycling. D: Recovery of wood chips, substituting virgin material.

Incineration (10%): LVL incineration for energy recovery.
C1: Demolition of building. C2: Transportation to the processing facility (assumed 25km). C3: Preparing for incineration. C4: Chips to incineration (73% efficiency). D: Replacement of thermal energy from natural gas and replacement of electricity.

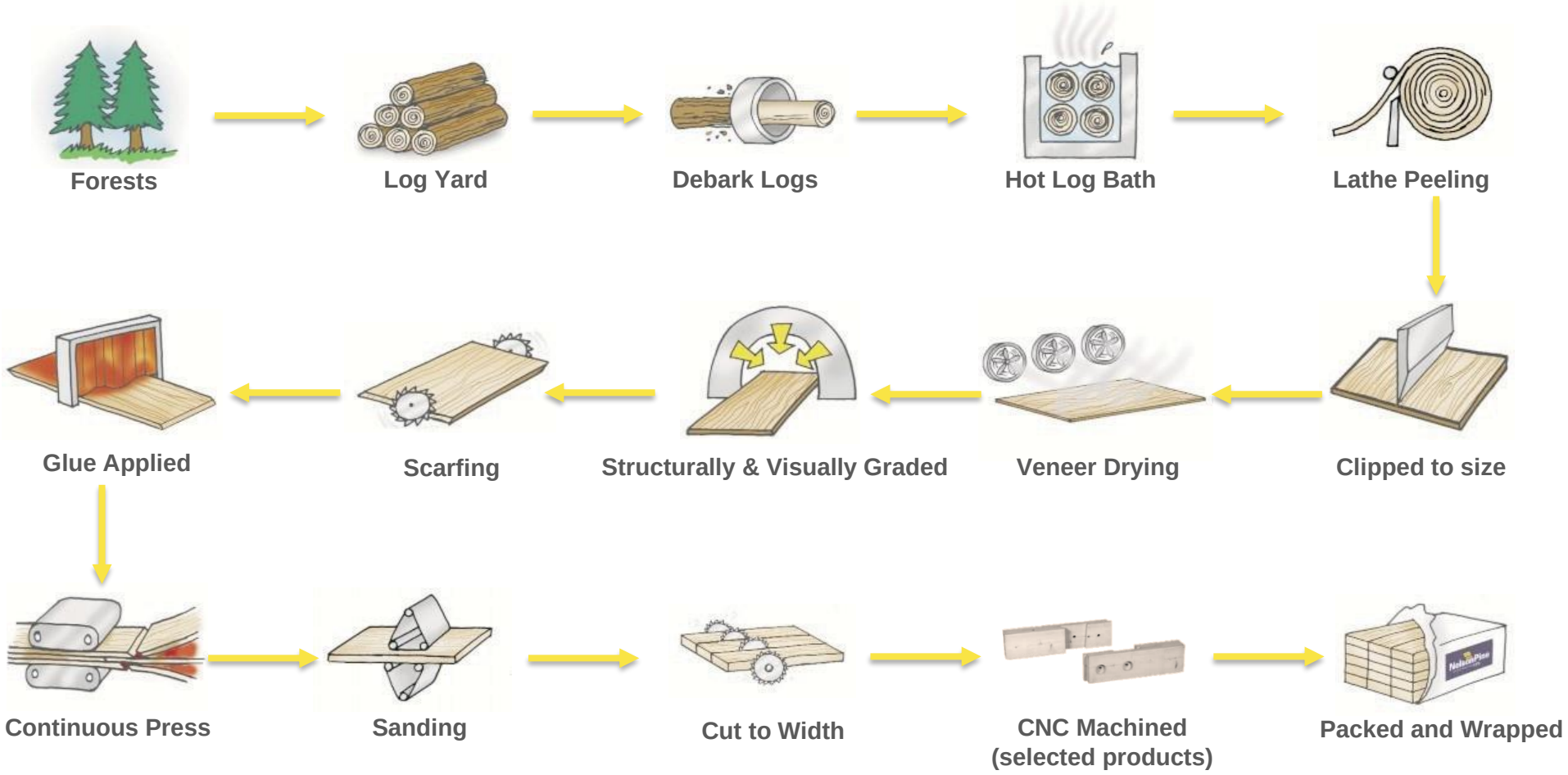
Landfill (75%): Disposal to landfill
C1: Demolition of building. C2: Transportation to the processing facility (assumed 25km). C3: Preparing for landfilling. C4: Landfilling process.
D: Methane gas from landfills can be captured and used as a biofuel to replace fossil fuels. The energy recovery for this scenario is so small that it has been deemed negligible.

NelsonPine® LVL as carbon storage

When a tree grows it absorbs Carbon Dioxide (CO_2) from the atmosphere through the process of photosynthesis and stores the Carbon within the tree. This is a form of sequestration. The Carbon that is sequestered by the tree is stored in the wood and resulting timber products, and is referred to as biogenic carbon.

Carbon stored in NelsonPine® LVL is 239.7 kg C/m^3 (multiplied by 44/12 to get 879kg CO2eq/m^3). This carbon content is based only on the carbon in the product (GWP-BCIP, biogenic carbon in product) and not including other biogenic emissions (e.g. GWP-BC as shown in GWP-biogenic Module A1). The longer the CO_2 is not in the atmosphere but stays stored in a material, the greater the environmental benefit. The long service life of our LVL products ensures long carbon storage times. Reuse and recycling ensures even longer carbon storage. Once the material is disposed, biogenic carbon is released back to the atmosphere and completes the natural carbon cycle.

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	Allocated by mass or volume
Packaging materials	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	- %

This EPD is product and factory specific and does not contain average calculations.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent V3.6 and One Click LCA databases were used as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	-8.54E2	1.05E-1	5.69E1	-7.97E2	0E0	-7.97E0	MND	MND	MND	MND	MND	MND	MND	0E0	3.23E0	3E2	7.61E2	9.1E1
GWP – fossil	kg CO_2e	9.85E1	1.05E-1	4.52E1	1.44E2	0E0	1.44E0	MND	MND	MND	MND	MND	MND	MND	0E0	3.22E0	2.75E0	4.62E0	-8.29E1
GWP – biogenic	kg CO_2e	-9.53E2	-1.55E-5	1.16E1	-9.41E2	0E0	MND	MND	MND	MND	MND	MND	MND	MND	0E0	1.1E-3	2.97E2	7.57E2	1.74E2
GWP – LULUC	kg CO_2e	3.51E-1	6.5E-5	1.33E-1	4.83E-1	0E0	4.83E-3	MND	MND	MND	MND	MND	MND	MND	0E0	1.46E-3	1.07E-2	2.4E-3	-1.03E-1
Ozone depletion pot.	kg $CFC_{-11}e$	8.29E-6	2.15E-8	5.44E-6	1.37E-5	0E0	1.37E-7	MND	MND	MND	MND	MND	MND	MND	0E0	6.82E-7	2.29E-7	1.4E-6	-2.82E-6
Acidification potential	mol H^+e	4.95E-1	2.79E-3	1.28E0	1.78E0	0E0	1.78E-2	MND	MND	MND	MND	MND	MND	MND	0E0	2.1E-2	2.01E-2	3.93E-2	-6.34E-1
EP-freshwater[2)]	kg Pe	5.52E-3	6.12E-7	1.04E-2	1.59E-2	0E0	1.59E-4	MND	MND	MND	MND	MND	MND	MND	0E0	3.55E-5	1.43E-4	9.83E-5	-3.46E-3
EP-marine	kg Ne	1.13E-1	7.08E-4	4.75E-1	5.89E-1	0E0	5.89E-3	MND	MND	MND	MND	MND	MND	MND	0E0	7.78E-3	7E-3	2.57E-2	-8.52E-2
EP-terrestrial	mol Ne	1.25E0	7.86E-3	6.06E0	7.32E0	0E0	7.32E-2	MND	MND	MND	MND	MND	MND	MND	0E0	8.56E-2	7.55E-2	1.45E-1	-9.47E-1
POCP ("smog")[3)]	kg NMVOCe	5.93E-1	2.05E-3	1.27E0	1.87E0	0E0	1.87E-2	MND	MND	MND	MND	MND	MND	MND	0E0	2.35E-2	2.06E-2	5.19E-2	-2.86E-1
ADP-minerals & metals[4)]	kg Sbe	1.39E-3	1.31E-6	4.64E-4	1.85E-3	0E0	1.85E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1.11E-4	2.99E-5	4.88E-5	-2.47E-4
ADP-fossil resources	MJ	2.29E3	1.39E0	6.87E2	2.98E3	0E0	2.98E1	MND	MND	MND	MND	MND	MND	MND	0E0	4.71E1	3.25E1	1.07E2	-7.33E2
Water use[5)]	m^3e depr.	4.28E1	3.59E-3	3.53E2	3.96E2	0E0	3.96E0	MND	MND	MND	MND	MND	MND	MND	0E0	1.97E-1	-2.84E-1	4.76E0	-3.72E1

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	5.18E-6	4.81E-9	9.46E-6	1.46E-5	0E0	1.46E-7	MND	MND	MND	MND	MND	MND	MND	0E0	2.76E-7	1.98E-7	7.45E-7	-9.29E-6
Ionizing radiation[6)]	kBq U235e	3.78E0	5.92E-3	8.53E-1	4.64E0	0E0	4.64E-2	MND	MND	MND	MND	MND	MND	MND	0E0	1.94E-1	1.21E-1	4.19E-1	-1.02E0
Ecotoxicity (freshwater)	CTUe	2.53E3	9.58E-1	6.09E3	8.62E3	0E0	8.62E1	MND	MND	MND	MND	MND	MND	MND	0E0	4.26E1	4.54E1	1.05E2	-2.64E3
Human toxicity, cancer	CTUh	4.8E-7	5.95E-11	7.37E-8	5.54E-7	0E0	5.54E-9	MND	MND	MND	MND	MND	MND	MND	0E0	1.86E-9	3.35E-9	2.95E-9	-3.07E-8
Human tox. non-cancer	CTUh	1.24E-6	9.13E-10	2.64E-6	3.88E-6	0E0	3.88E-8	MND	MND	MND	MND	MND	MND	MND	0E0	4.95E-8	1.5E-7	1.16E-7	-8.94E-7
SQP[7)]	-	1.96E2	3.04E-1	1.47E2	3.43E2	0E0	3.43E0	MND	MND	MND	MND	MND	MND	MND	0E0	3.16E1	6.07E0	3.78E2	-1.08E2

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	7.06E2	1.12E-2	5.24E3	5.94E3	0E0	5.94E1	MND	MND	MND	MND	MND	MND	MND	0E0	6.06E-1	1.67E1	1.89E0	-8.04E2
Renew. PER as material	MJ	1.01E4	0E0	0E0	1.01E4	0E0	1.01E2	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	2.59E2	0E0	-2.29E3
Total use of renew. PER	MJ	1.08E4	1.12E-2	5.24E3	1.6E4	0E0	1.6E2	MND	MND	MND	MND	MND	MND	MND	0E0	6.06E-1	2.76E2	1.89E0	-3.1E3
Non-re. PER as energy	MJ	1.85E3	1.39E0	6.55E2	2.5E3	0E0	2.5E1	MND	MND	MND	MND	MND	MND	MND	0E0	4.71E1	3.25E1	1.07E2	-7.33E2
Non-re. PER as material	MJ	4.4E2	0E0	3.68E1	4.77E2	0E0	4.77E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of non-re. PER	MJ	2.29E3	1.39E0	6.91E2	2.98E3	0E0	2.98E1	MND	MND	MND	MND	MND	MND	MND	0E0	4.71E1	3.25E1	1.07E2	-7.33E2
Secondary materials	kg	2.96E-1	0E0	8.13E-2	3.77E-1	0E0	3.77E-3	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Renew. secondary fuels	MJ	0E0	0E0	3.86E3	3.86E3	0E0	3.86E1	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m^3	6.46E-1	1.59E-4	1.21E0	1.86E0	0E0	1.86E-2	MND	MND	MND	MND	MND	MND	MND	0E0	8.23E-3	2.31E-2	1.2E-1	-1.72E-1

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	5.7E0	1.7E-3	1.67E0	7.37E0	0E0	7.37E-2	MND	MND	MND	MND	MND	MND	MND	0E0	7.03E-2	0E0	1.94E-1	-4.7E0
Non-hazardous waste	kg	1.63E2	4.08E-2	1.23E2	2.86E2	0E0	2.86E0	MND	MND	MND	MND	MND	MND	MND	0E0	3.19E0	0E0	4.27E2	-1.73E2
Radioactive waste	kg	3.95E-3	9.61E-6	1.57E-3	5.53E-3	0E0	5.53E-5	MND	MND	MND	MND	MND	MND	MND	0E0	3.06E-4	0E0	6.39E-4	-1.28E-3

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	2.85E1	0E0	0E0
Materials for recycling	kg	0E0	0E0	2E-2	2E-2	0E0	2E-4	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	5.7E1	0E0	0E0
Materials for energy rec	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	5.7E1	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	9.29E1	1.04E-1	4.95E1	1.43E2	0E0	1.43E0	MND	MND	MND	MND	MND	MND	MND	0E0	3.19E0	2.69E0	2.43E1	-8.01E1
Ozone depletion Pot.	kg CFC_{-11}e	7.2E-6	1.7E-8	5.77E-6	1.3E-5	0E0	1.3E-7	MND	MND	MND	MND	MND	MND	MND	0E0	5.43E-7	1.96E-7	1.12E-6	-2.3E-6
Acidification	kg SO_2e	3.69E-1	2.22E-3	8.81E-1	1.25E0	0E0	1.25E-2	MND	MND	MND	MND	MND	MND	MND	0E0	1.52E-2	1.46E-2	2.48E-2	-5.51E-1
Eutrophication	kg PO_4^3e	1.5E-1	2.62E-4	2.59E-1	4.09E-1	0E0	4.09E-3	MND	MND	MND	MND	MND	MND	MND	0E0	3.7E-3	1.06E-2	1.11E0	-1.12E-1
POCP (“smog”)	kg C_2H_4e	7.03E-2	5.85E-5	1.82E-2	8.86E-2	0E0	8.86E-4	MND	MND	MND	MND	MND	MND	MND	0E0	4.92E-4	6.96E-4	7.12E-3	-2.66E-2
ADP-elements	kg Sbe	1.39E-3	1.31E-6	4.64E-4	1.85E-3	0E0	1.85E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1.11E-4	2.99E-5	4.88E-5	-2.47E-4
ADP-fossil	MJ	2.29E3	1.39E0	6.87E2	2.98E3	0E0	2.98E1	MND	MND	MND	MND	MND	MND	MND	0E0	4.71E1	3.25E1	1.07E2	-7.33E2

ENVIRONMENTAL IMPACTS – ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Radioactive waste, high	kg	7.28E-5	7.86E-9	6.88E-6	7.97E-5	0E0	7.97E-7	MND	MND	MND	MND	MND	MND	MND	0E0	4.8E-7	2.38E-6	1.68E-6	-1.09E-5
Radioactive waste, int/low	kg	3.88E-3	9.6E-6	1.17E-3	5.05E-3	0E0	5.05E-5	MND	MND	MND	MND	MND	MND	MND	0E0	3.06E-4	1.11E-4	6.38E-4	-1.27E-3

ENVIRONMENTAL IMPACTS – TRACI 2.1. / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	9.32E1	1.04E-1	4.89E1	1.42E2	0E0	1.42E0	MND	MND	MND	MND	MND	MND	MND	0E0	3.18E0	2.69E0	2.65E1	-8.03E1
Ozone Depletion	kg CFC_{-11}e	9.62E-6	2.27E-8	7.08E-6	1.67E-5	0E0	1.67E-7	MND	MND	MND	MND	MND	MND	MND	0E0	7.23E-7	2.6E-7	1.49E-6	-3.07E-6
Acidification	kg SO_2e	4.21E-1	2.38E-3	1.12E0	1.54E0	0E0	1.54E-2	MND	MND	MND	MND	MND	MND	MND	0E0	1.89E-2	1.79E-2	3.5E-2	-5.36E-1
Eutrophication	kg Ne	1.31E-1	1.15E-4	8.86E-2	2.2E-1	0E0	2.2E-3	MND	MND	MND	MND	MND	MND	MND	0E0	2.07E-3	5.04E-3	2E-2	-4.2E-2
POCP (“smog”)	kg O_3e	7.53E0	4.5E-2	2.98E1	3.74E1	0E0	3.74E-1	MND	MND	MND	MND	MND	MND	MND	0E0	4.95E-1	4.31E-1	8.37E-1	-5.39E0
ADP-fossil	MJ	2.7E2	2.02E-1	1.46E2	4.16E2	0E0	4.16E0	MND	MND	MND	MND	MND	MND	MND	0E0	6.56E0	2.95E0	1.47E1	-3.88E1

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online
This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Elisabet Amat, as an authorized verifier acting for EPD Hub Limited
Updated 04.07.2023

VERIFIED ISO 14025