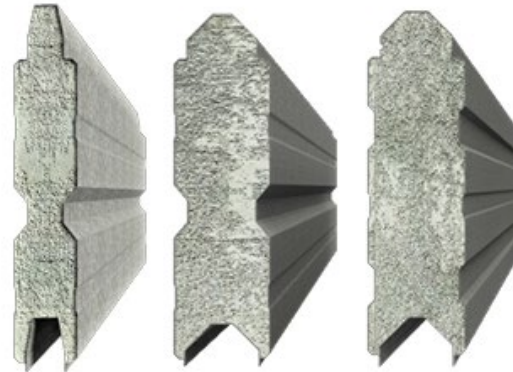


ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / 14040 / 14044 / 21930

KOROK® Galvanized Panel **KOROK® Building Systems NZ Ltd**



Programme:	The international EPD® system, www.environdec.com
Programme operator:	EPD International AB
Regional Programme:	EPD Australasia Ltd.
EPD registration number:	EPD-IES-0014126
Publication date:	2024-07-01
Valid until:	2029-06-30
Geographical scope:	New Zealand

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.



GENERAL INFORMATION

MANUFACTURER INFORMATION

Manufacturer	KOROK Building Systems NZ Ltd
Address	22 Norris Avenue, Te Rapa, Hamilton 3200
Contact details	laura@korok.com
Website	www.korok.com

PRODUCT IDENTIFICATION

Product name	KOROK Galvanized Panel
Additional label(s)	-
Product number / reference	51mm, 78mm Gen 1 & 78mm Gen 2 Panel
Place(s) of production	New Zealand
CPC code	314 Boards and panels

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but registered in different EPD programmes 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.

EPD INFORMATION

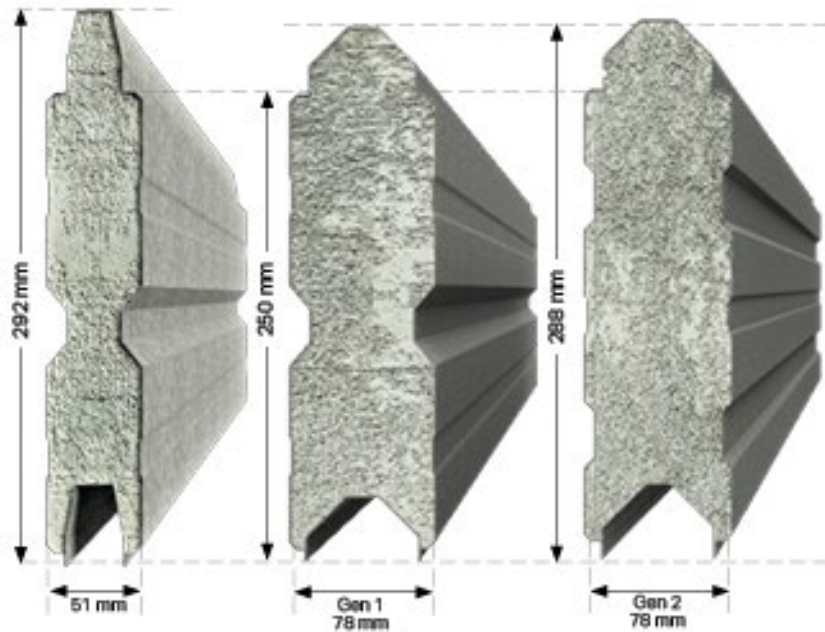
EPD program operator	EPD International AB Box 210 60, SE-100 31 Stockholm, Sweden info@environdec.com
EPD regional programme	EPD Australasia 315a Hardy Street, Nelson 7010 New Zealand +64 9 889 2909 +61 2 8005 8206 info@epd-australasia.com
EPD standards	This EPD is in accordance with EN 15804+A2 and ISO 14025 standards.
Product category rules	The CEN standard EN 15804 serves as the core PCR. In addition, the Int'l EPD System PCR 2019:14 Construction products, version 1.3.2 is used. Product specific complementary category rules have not been applied in this EPD
EPD author	KOROK Building Systems NZ Ltd
EPD verification	Independent verification of this EPD and data, according to ISO 14025:2006 and ISO 21930:2017 <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
Verification date	2024-07-01
EPD verifier	Dr Hudai Kara, www.metsims.com, Oxford. U.K.
Verifier approved by	EPD Australasia Ltd.

PRODUCT INFORMATION

PRODUCT DESCRIPTION

KOROK® galvanized panels are rollformed from zinc coated steel strips with an aerated concrete core and weigh nominally 10.2kg per lineal metre.

This EPD covers three KOROK panel profiles: 51mm panel, 78mm Gen1 panel, 78mm Gen2 panel. All three profiles comprise the same mass of steel and concrete.



KOROK panel provides superior fire and acoustic performance with clip-together simplicity.

- BRANZ appraised.
- Roll formed galvanised steel outer shell.
- Lightweight with aerated concrete core.
- Fire ratings up to -/240/240.
- Acoustic ratings up to STC 76.
- Panels interlock with clip-together simplicity for rapid installation.
- Can be dismantled and reassembled to accommodate changing requirements.
- Can be installed horizontally or vertically.

PRODUCT APPLICATION

Fire and acoustic protection in buildings.

Typical applications are:

- Dividing and boundary walls for sheds, factories and warehouses.
- Cinema walls.
- Intertenancy walls for apartments, terraced housing, hotels and retirement complexes.
- Lift shaft and duct walls.
- Acoustic barriers.
- Stairs and scissor stairs.

TECHNICAL SPECIFICATIONS

KOROK® galvanized panels are rollformed from zinc coated steel strips. The steel from which the shells are manufactured conforms to AS/NZS1397:2001.

Steel shells have a base metal thickness of 0.4mm B.M.T. with a Z275 zinc coating. These panels have an aerated concrete core and weigh nominally 10.2kg per lineal metre.

PRODUCT STANDARDS

KOROK® galvanized panel provides a minimum FRR -/60/60, STC 36.

NZS 2589.1-2017

Gypsum Linings in residential and light commercial construction

AS/NZS 1170.0-2002

Structural design actions. Part 0: General Principles

NZS 7202-1986

Part 1 Specification for gap filling adhesives

AS 4072.1-2005

Components for the protection of openings in fire-resistant separating elements

AS 1530.4-2014

Methods for fire tests on building materials, components and structures

PHYSICAL PROPERTIES OF THE PRODUCT

KOROK® PANEL PROPERTIES: 78MM 400KG/M3

- Base Metal Thickness 0.4mm B.M.T.
- Mass kg per lineal metre 10.2 nominal
- Mass kg/m² 40.8 nominal
- EI 60 kNm² per panel (bending stiffness, minor axis)
- EI 387 kNm² per panel (bending stiffness, major axis)
- EA 4060 kN per panel (axial stiffness)
- GJ 583 kNm² per panel (torsional stiffness)

VERTICAL SPAN WALLS

- Maximum bending moment / panel 1.43 kNm (ULS)
- Maximum axial end crush force / panel 25 kN (ULS) 3.4 kN (SLS)
- Maximum horizontal reaction (crushing on flat) / panel 8.9 kN (ULS) 3.1 kN (SLS)

HORIZONTAL SPAN WALLS

- Maximum bending moment / panel 1.43 kNm (ULS)
- Maximum axial edge crush force per unit length 17 kN/m (ULS) 6k N/m (SLS)
- Maximum horizontal reaction / panel 8.9 kN (ULS) 3.1 kN (SLS)

KOROK® PANEL PROPERTIES: 51MM 600KG/M3

- Base Metal Thickness 0.4mm B.M.T.
- Mass kg per lineal metre 10.1 nominal
- Mass kg/m² 40.4 nominal
- EI 24 kNm² per panel (bending stiffness, minor axis)
- EI 400 kNm² per panel (bending stiffness, major axis)
- EA 4060 kN per panel (axial stiffness)
- GJ 27 kNm² per panel (torsional stiffness)

VERTICAL SPAN WALLS

- Maximum bending moment / panel 0.96 kNm (ULS)
- Maximum axial end crush force / panel 32 kN (ULS) 2.9 kN (SLS)
- Maximum horizontal reaction (crushing on flat) / panel 1.08 kN (ULS) 0.93 kN (SLS)

HORIZONTAL SPAN WALLS

- Maximum bending moment / panel 0.96 kNm (ULS)
- Maximum axial edge crush force per unit length 5.5 kN/m (ULS) 0.77 kN/m (SLS)
- Maximum horizontal reaction / panel 1.08 kN (ULS) 0.93 kN (SLS)

DEFINITIONS

ULS: Value shown is for Ultimate Limit State loading

SLS: Value shown is for Serviceability Limit State loading

ADDITIONAL TECHNICAL INFORMATION

Further information can be found at www.korok.com.

PRODUCT RAW MATERIAL COMPOSITION

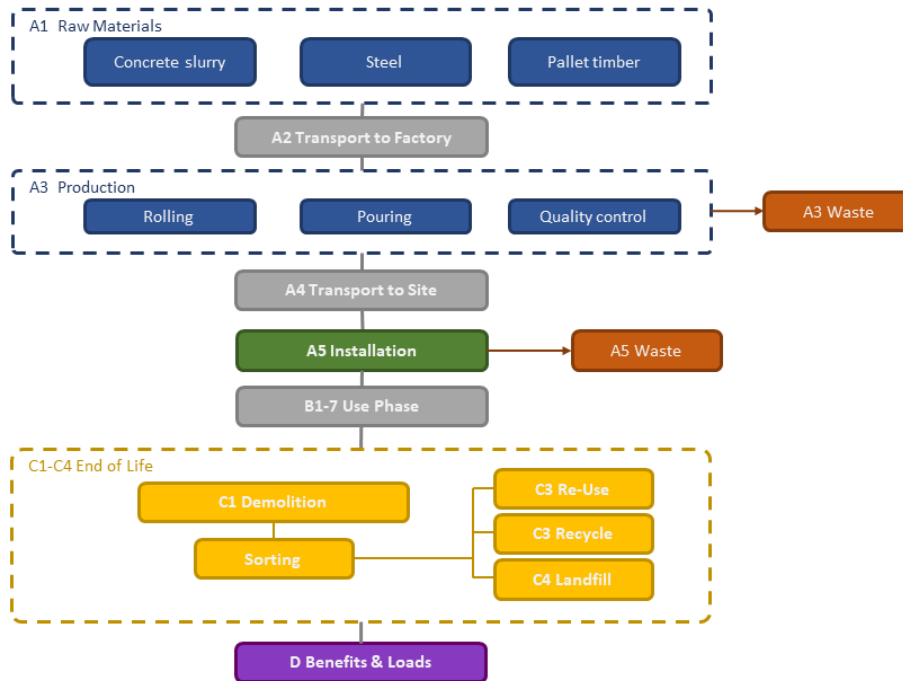
Product Components	Weight, kg	Post-consumer recycled material, weight-% of product	Biogenic material, weight-% of product	Biogenic material, kg C/product or declared unit	Biogenic carbon, kg CO ₂ e/DU
Portland Cement	22.8	0%	0.0%		
Fly Ash	3.86	0%			
Low Carbon Steel	12.9	0%	0.0%		
Washed Fine Sand	3.3	0%	0.0%		
Anionic Detergent Blend	0.005	0%			
Non-ionic Surfactant	0.005	0%			
Antimony	0.005	0%			
Polypropylene Filaments	0.005	0%			
TOTAL	42.76	0%	0.0%	0.0	0.0

Packaging Materials	Weight, kg	Weight-% (versus the product)	Biogenic material, kg C/product or declared unit	Biogenic carbon, kg CO ₂ e/DU
Timber pallets	1.61	3.77%	7.96E-01	2.92
TOTAL	1.61	3.77%	7.96E-01	2.92

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



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.

For many years, KOROK has focused on reducing the environmental impact of sourcing our raw materials and of our manufacturing. KOROK buys locally wherever possible. Recent improvements have seen the switch to LED lighting in the factory and from LPG to electric forklifts.

Module A1 includes locally produced steel, and concrete slurry made to a proprietary mix. Packaging materials, locally supplied, are also included.

Module A2 covers the transportation of the raw materials to our manufacturing facility in Te Rapa, Hamilton, New Zealand.

Module A3 covers the manufacturing component of the life cycle of our product. Our factory runs on low voltage electricity. The data is sourced from Ecoinvent datapoint, valid for 2018, GWP (A1-A3) 0.12 kg CO₂e / kWh. Although not specified in this datapoint, a large proportion of power produced in New Zealand is from hydro 56%, with geothermal 11% and some wind production 9% too. It is hoped to find a more accurate datapoint in the future, reflecting this mix.

The other fuel used in this stage is LPG for our forklifts. As the leases expire on our forklifts we are changing to electric forklifts. Manufacturing waste is also covered in this stage. All our factory waste is recycled.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

From our factory in Hamilton in the North Island, KOROK supplies the whole of New Zealand and some overseas clients too. Distribution is scheduled to maximise loads and minimise vehicle movements.

Module A5 (installation) includes the disposal of offcuts from installation, including a combination of recycling and landfill. KOROK panels are made to measure. This ensures installation waste is kept to a minimum.

Module A5 (installation) also includes the disposal of the untreated timber packaging. For the purpose of this EPD, it has been assumed that 100% will go to landfill. This is very much worst-case scenario and will be updated when recycling of untreated timber from construction site data is available.

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)

KOROK panel is fully reusable. It can be disassembled and then reassembled in another area of a building or, indeed, in another building.

At the end of its useful life, KOROK panel is removed in the same way that it is installed, by unscrewing each panel. Energy for demolition of building (C1) is considered to be the same as the energy used for construction (A3).

KOROK panel is fully recyclable. The outer steel core is removed and 85% of this is recycled. The inner aerated concrete can be crushed and reused but for the purposes of this EPD we have assumed that it will go to landfill.

Transportation to landfill/recycling plant is also included here.

MANUFACTURING PROCESS



LIFE CYCLE ASSESSMENT

LIFE CYCLE ASSESSMENT INFORMATION

Period for data	Financial year (Apr-Mar 2022)
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DECLARED AND FUNCTIONAL UNIT

Declared unit	1 m2 galvanized panel
Mass per declared unit	42.76 kg
Functional unit	-
Reference service life	-
Software	OneClick LCA
Database	Ecoinvent and internal database

SYSTEM BOUNDARY

	Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
	Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruct / demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	D	D
Modules declared	x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x	x	x
Geography	NZ	NZ	NZ	NZ	NZ	-	-	-	-	-	-	-	NZ	NZ	NZ	NZ	NZ		
Specific data used	>90%																		
Variation - products	0%																		
Variation - Sites	N/A																		

Modules not declared = MND. Not reported = NR.

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the EN 15804:2012+A2:2019 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.

Per SQM	Weight (kg) per SQM
C-track (metres)	2.14
Aluminium brackets (each)	0.032
Sealant (tube)	0.195
TT 14x35 Hex 10 C4 (100)	0.049
Wafer 10-16x16 C3 (1000)	0.028
Hilti DBZ 6/4.5 (100)	0.009

The exclusions from this study are:

- Installation consumables, with the exception of C-track
 - Machine oil
 - Pallet tape
 - Glad wrap for ends of panels during concrete pour
 - Protective film used on some panels
 - Polypropylene filaments, added to the concrete slurry for strengthening
 - Non-ionic surfactant, to aerate the concrete slurry
- due to their nominal mass, relative to the finished product.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation.

In this study, as per EN 15804, allocation is conducted in the following order;

1. Allocation should be avoided.
2. Allocation should be based on physical properties (e.g. mass, volume) when the difference in revenue is small.
3. Allocation should be based on economic values.

The allocations in the Ecoinvent 3.8 datasets used in this study follow the Ecoinvent system model 'Allocation, cut-off, EN15804'.

AVERAGES AND VARIABILITY

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

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. Note: additional environmental impact data may be presented in annexes.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2 PER M² PANEL

Impact category	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	5,89E+01	1,04E+00	4,54E+00	2,26E-03	1,98E-01	2,75E-01	1,68E-01	-8,79E+00
GWP – fossil	kg CO ₂ e	6,18E+01	1,05E+00	1,61E+00	2,24E-03	1,98E-01	2,73E-01	1,68E-01	-8,79E+00
GWP – biogenic	kg CO ₂ e	-2,92E+00	0,00E+00	2,92E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO ₂ e	9,17E-03	3,86E-04	2,75E-04	3,74E-07	7,30E-05	3,56E-04	1,58E-04	4,86E-03
Ozone depletion pot.	kg CFC	7,39E-07	2,41E-07	3,51E-08	9,18E-11	4,55E-08	2,94E-08	6,78E-08	-2,42E-07
Acidification potential	mol H ⁺ e	2,02E-01	4,43E-03	5,49E-03	8,77E-06	8,38E-04	3,13E-03	1,58E-03	-3,50E-02
EP-freshwater ²⁾	kg Pe	2,86E-04	8,56E-06	8,30E-06	1,53E-07	1,62E-06	1,19E-05	1,76E-06	-2,88E-05
EP-marine	kg Ne	4,84E-02	1,32E-03	1,39E-03	1,21E-06	2,49E-04	6,64E-04	5,46E-04	-1,02E-03
EP-terrestrial	mol Ne	5,48E-01	1,45E-02	1,51E-02	1,38E-05	2,75E-03	7,66E-03	6,00E-03	-9,10E-02
POCP (“smog”) ³⁾	kg	1,54E-01	4,65E-03	4,33E-03	4,07E-06	8,79E-04	2,10E-03	1,75E-03	-4,95E-02
ADP-minerals & metals ⁴⁾	kg Sbe	1,25E-03	2,45E-06	3,24E-05	5,79E-08	4,64E-07	3,13E-05	3,85E-07	-2,57E-04
ADP-fossil resources	MJ	5,17E+02	1,57E+01	1,41E+01	3,03E-02	2,97E+00	3,27E+00	4,60E+00	-6,85E+01
Water use ⁵⁾	m ³ e	4,92E+00	7,03E-02	1,30E-01	2,79E-04	1,33E-02	5,56E-02	1,46E-02	3,09E+00

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO₄e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2 PER M² PANEL

Impact category	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Particulate matter	Incidence	2,36E-06	1,21E-07	6,82E-08	4,94E-11	2,28E-08	4,27E-08	3,18E-08	-4,46E-07
Ionizing radiation ⁶⁾	kBq U235e	4,88E-01	7,48E-02	1,79E-02	1,79E-05	1,42E-02	1,96E-02	2,08E-02	2,94E-01
Ecotoxicity (freshwater)	CTUe	3,15E+02	1,41E+01	9,36E+00	8,54E-02	2,67E+00	1,53E+01	3,00E+00	-2,24E+02
Human toxicity, cancer	CTUh	8,19E-09	3,47E-10	2,46E-10	1,96E-12	6,57E-11	4,58E-10	7,50E-11	8,28E-08
Human tox. non-cancer	CTUh	9,66E-07	1,40E-08	2,57E-08	4,38E-11	2,65E-09	1,98E-08	1,96E-09	5,04E-07
SQP ⁷⁾	-	2,58E+02	1,81E+01	8,49E+00	4,10E-03	3,42E+00	6,52E+00	9,83E+00	-3,29E+01

6) EN 15804+A2 disclaimer for ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES PER M2 PANEL

Impact category	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	4,09E+01	1,77E-01	2,35E+01	7,93E-02	3,35E-02	5,04E-01	3,99E-02	-9,64E+00
Renew. PER as material	MJ	2,24E+01	0,00E+00	-2,24E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	6,33E+01	1,77E-01	1,12E+00	7,93E-02	3,35E-02	5,04E-01	3,99E-02	-9,64E+00
Non-re. PER as energy	MJ	5,17E+02	1,57E+01	1,41E+01	3,03E-02	2,97E+00	3,27E+00	4,60E+00	-6,85E+01
Non-re. PER as material	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
Total use of non-re. PER	MJ	5,17E+02	1,57E+01	1,41E+01	3,03E-02	2,97E+00	3,27E+00	4,60E+00	-6,85E+01
Secondary materials	kg	2,65E+00	4,36E-03	6,67E-02	1,72E-05	8,25E-04	3,51E-03	9,66E-04	5,72E+00
Renew. secondary fuels	MJ	3,39E-04	4,40E-05	2,08E-05	6,22E-08	8,33E-06	1,79E-04	2,52E-05	-1,37E-03
Non-ren. secondary fuels	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
Use of net fresh water	m ³	1,03E-01	2,04E-03	3,25E-03	6,21E-06	3,85E-04	1,58E-03	5,03E-03	-2,33E-01

8) PER = Primary energy resources

END OF LIFE – WASTE PER M² PANEL

Impact category	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste	kg	3,81E-01	2,08E-02	1,10E-02	9,48E-05	3,94E-03	0,00E+00	0,00E+00	-5,09E+00
Non-hazardous waste	kg	1,14E+01	3,42E-01	2,73E+00	7,49E-03	6,47E-02	0,00E+00	3,18E+01	-1,45E+01
Radioactive waste	kg	2,32E-03	1,05E-04	6,21E-05	1,05E-08	1,99E-05	0,00E+00	0,00E+00	5,52E-05

END OF LIFE – OUTPUT FLOWS PER M² PANEL

Impact category	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	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
Materials for recycling	kg	5,69E+00	0,00E+00	4,14E-01	0,00E+00	0,00E+00	1,06E+01	0,00E+00	0,00E+00
Materials for energy rec	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
Exported energy	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

ENVIRONMENTAL IMPACTS – GWP-GHG PER M² PANEL

Impact category	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG ¹⁰⁾	kg CO ₂ e	6,18E+01	1,05E+00	1,61E+00	2,24E-03	1,98E-01	2,73E-01	1,68E-01	-8,79E+00

¹⁰⁾ This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO₂ is set to zero.

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	New Zealand generic data 2018
Electricity CO ₂ e / kWh	0.12
District heating data source and quality	n/a
District heating CO ₂ e / kWh	n/a

REFERENCES

ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations. Principles and procedures.

ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.

ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines.

ISO 21930:2017 Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services.

Ecoinvent database v3.8 (2021) and One Click LCA database.

EN 15804:2012+A2:2019 Sustainability in construction works – Environmental product declarations – Core rules for the product category of construction products.

Int'l EPD System PCR 2019:14 Construction products, version 1.3.2

UN CPC 2.1 314 Boards and panels

EPD International (2021). General Programme Instructions of the international EPD® system. Version 4.0. www.environdec.com.

KOROK Galvanized Panel LCA background report 15.04.2024



ABOUT THE MANUFACTURER

KOROK® Building Systems NZ Ltd is a manufacturer of fire and acoustic rated wall systems. The revolutionary composition and clip-together simplicity of our systems has established KOROK® as a leader in the New Zealand commercial construction sector.

KOROK® NZ Ltd manufactures fire and acoustic rated wall panels at our factory in Hamilton. KOROK® provides engineering advice and product services to the most respected architects, engineers, developers and construction professionals in New Zealand.

KOROK® is 100% New Zealand owned and operated, supporting the New Zealand Building Industry. KOROK® has been appraised by the Building Research Association of New Zealand (BRANZ).

As a company KOROK® is environmentally responsible. We care deeply about the environment, which is why the components that make up KOROK® are locally sourced and 100% recyclable.

KOROK® has a professional, dedicated and experienced team. Our company's ethos is to become part of our clients' team to ensure that construction objectives are efficiently achieved. Understanding the requirements of our clients is key for a successful project. Our sales team has multiple years construction industry experience. They are experts in finding the best product solution for your project.

VERIFICATION AND REGISTRATION (INTERNATIONAL EPD SYSTEM)

ISO standard ISO 21930 and CEN standard EN 15804 serves as the core Product Category Rules (PCR)	
PCR	PCR 2019:14 Construction products, version 1.3.2
PCR review was conducted by:	The Technical Committee of the International EPD® System. See https://www.environdec.com/about-us/the-international-epd-system-about-the-system 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 .
Independent third-party verification of the declaration and data, according to ISO 14025:2006:	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
Third party verifier:	Dr Hudai Kara, Metsims Sustainability Consulting, Oxford, U.K.
Approved by:	EPD Australasia Ltd.
Procedure for follow-up during EPD validity involves third party verifier	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no



EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, E-mail: info@environdec.com

ANNEX 1: ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	6,02E+01	1,04E+00	1,68E+00	2,21E-03	0,00E+00	2,69E-01	1,64E-01	-8,13E+00
Ozone depletion Pot.	kg CFC-11e	5,60E-07	1,91E-07	2,72E-08	7,96E-11	0,00E+00	2,37E-08	5,37E-08	-3,45E-07
Acidification	kg SO ₂ e	1,58E-01	3,44E-03	4,30E-03	7,41E-06	0,00E+00	2,52E-03	1,19E-03	-2,80E-02
Eutrophication	kg PO ₄ ³ e	2,50E-02	7,84E-04	5,32E-03	6,20E-06	0,00E+00	7,86E-04	2,57E-04	-1,26E-02
POCP ("smog")	kg C ₂ H ₄ e	1,94E-02	1,34E-04	5,21E-04	3,93E-07	0,00E+00	9,62E-05	4,99E-05	-6,45E-03
ADP-elements	kg Sbe	1,22E-03	2,37E-06	3,14E-05	5,76E-08	0,00E+00	3,12E-05	3,80E-07	-2,57E-04
ADP-fossil	MJ	5,06E+02	1,57E+01	1,39E+01	3,03E-02	0,00E+00	3,27E+00	4,60E+00	-6,85E+01