Environmental Product Declaration

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

Ready Mix Concrete
2 MPa 7mm Flowable Fill
9 Kakano Road, Westgate, Auckland

This photo shows an example of a building constructed with ready mix concrete

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
Regional programme operator:	EPD Australasia
EPD registration number:	EPD-IES-0035643:001
Publication date:	2026-10-27
Version date:	2026-10-27
Valid Until:	2031-10-27
Geographical scope:	New Zealand

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see environdec.com.

Contents

General Information 3
Information about EPD owner 5
Product Information 7
Content Declaration 7
Product Composition Table 7
LCA Information 8
Transport to the Building Site 8
System Diagram 8
Raw Material Suppliers 9
Data Quality Assessment 10
Data Quality Information 11
Background Data 11
Allocation 11
Atlas Suppliers with EPD's used for Source Data 11
Electricity 11
Packaging 12
Cut-off Rules 12
Modules Declared, Geographical Scope, Share of Specific Data (in GWP-GHG results) and Data Variation (in GWP-GHG results) 13
End of Life 14
More Information 14
Environmental Performance 15
Core Environmental Impact Indicators 15
Additional Environmental Impact Indicators 16
Resource use Indicators 16
Waste Indicators 17
Output Flow Indicators 17
Additional Environmental Information 18
Differences Versus Previous Versions 18
Abbreviations 19
References 20
Contact Information 21
Version History 22
Notes on the use of this EPD 23

General Information

An Environmental Product Declaration (EPD) is a standardised way of quantifying the potential environmental impacts of A product or system. EPD's are produced according to a consistent set of rules - Product Category Rules (PCR) - that define the requirements within a given product category. This EPD is a "cradle-to-gate with modules A1-A5 and optional modules" declaration covering production and end-of-life life stages. This EPD is verified to be compliant with EN 15804, EPD's of construction products may not be comparable if they do not comply with EN 15804. EPD's within the same product category but from different programs or utilising different PCR documents may not be comparable. Atlas Concrete Limited, as the EPD owner, has sole ownership, liability and responsibility for the EPD.

Declaration Owner:	Atlas Concrete Limited 11 Wairau Road, Takapuna, Auckland 0627 New Zealand
EPD Program Operator:	EPD International AB Box 210 60, SE-100 31 Stockholm, Sweden
EPD Regional Program Operator:	EPD Australasia Limited 6 Cube Court, Richmond Nelson 7020, New Zealand
LCA Accountability:	Atlas Concrete Limited 11 Wairau Road, Takapuna, Auckland 0627 New Zealand
EPD Registration Number:	EPD-IES-0035643:001
Published:	2026-10-27
Valid Until:	2031-10-27

CEN standard EN 15804 served as the core PCR

PCR:	PCR 2019:14 Construction Products, Version 2.0.1, 2025-06-05, C-PCR-003 (to 2019:14) Concrete and elements, version 2025-04-08
PCR Review was conducted by:	The Technical Committee of the International EPD® System. See www.envirodec.com for a list of members. Review chair: Rob Rouwette | start2see (chair), Noa Meron | thinkstep-anz (co-chair). The review panel may be contacted via the Secretariat www.envirodec.com/contact.
Verification:	External and independent ("third-party") verification of the declaration and data according to ISO 14025:2006, via EPD verification through: ☒ EPD process certification* with a pre-verified LCA/EPD tool.
Third-party verifier, accountable for the certification:	Bureau Veritas Certification Sverige AB, Fabriksgatan 13 412 50, Goteborg
Accredited by:	Swedac
Pre-verified LCA tool::	Global Cement and Concrete Association (GCCA) Industry EPD tool for Clinker, Cement, Aggregates, Concrete and Precast Products (version 6.0)

General Information (continued)

Third-party verifier, accountable for the tool verification:	Elia Rillo, Consultant and Project Manager, Studio Fieschi & soci Srl http://www.studiofieschi.it/
Approved by :	The International EPD System
Procedure for Follow-up during EPD validity:	Procedure for follow-up of data during EPD validity involves third-party verifier: ☐ Yes ☒ No

*EPD process certification involves an accredited certification body certifying and periodically auditing the EPD process and conducting external and independent verification of EPDs that are regularly published. More information can be found in the General Programme Instructions on www.environdec.com

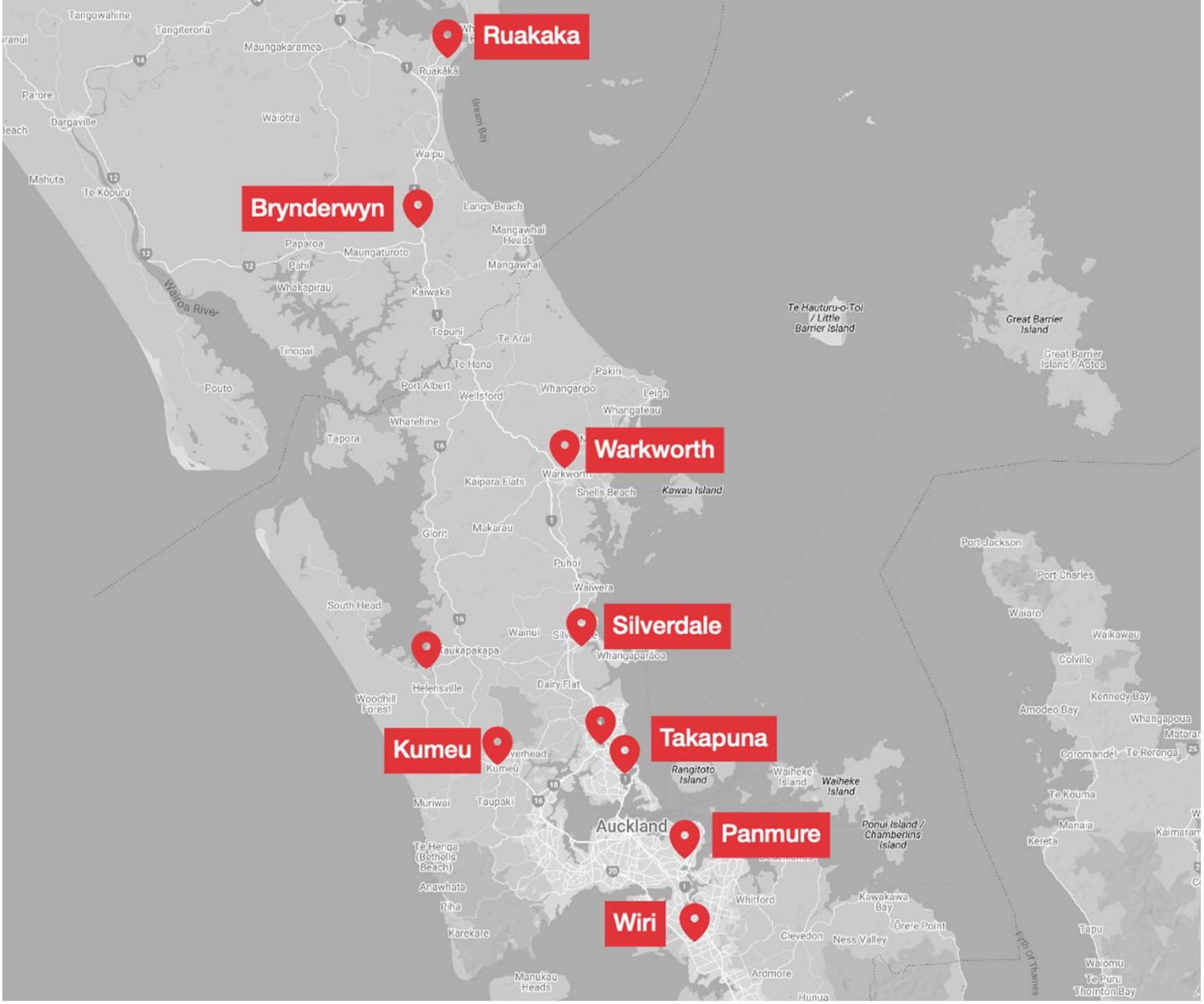
Information About EPD Owner

Atlas Concrete was founded in 1940 by Melville “Bunny” Collie in Takapuna, Auckland, Initially, Bunny Collie sold sand, metal, and shingle, but as the demand for building materials grew, he expanded into land subdivision on the North Shore. Recognizing the need for concrete in construction, Bunny began manufacturing his own concrete, which led to the development of some of the first shops and offices in Takapuna and Birkenhead, many of which are still in use today.

Through the 1960s and 1980s, Atlas Concrete expanded its operations across Auckland and over the years has become a significant player in the concrete supply industry, supplying quality concrete and aggregates to the region. The company continued to develop and adapt, and its commitment to reliable, high-quality service built strong relationships with its clients.

Today, Atlas employs over 280 people, operates over 120 concrete delivery trucks and around 70 other specialist vehicles and handling equipment. Atlas also operates sand barges which dredge approximately 350,000 tonnes of sand annually, a quarry operation producing 2-300,000 tonnes of aggregate per year, and a specialist concrete pre-cast division. Every piece of machinery and all plant equipment are 100% company owned and operated.

Atlas Concrete continues to be a trusted provider of high-quality, environmentally responsible concrete products that support sustainable construction projects across Auckland and beyond. Atlas Concrete produces ready-mix concrete at nine sites across Auckland and Northland: Takapuna, Kumeu, Wiri, Panmure, Silverdale, Warkworth, Ruakaka, & Brynderwyn as marked on the map below (the other markers show the aggregate recycling plants and the Mt Rex sand plant).



Atlas Concrete has always been committed to environmental responsibility and sustainability. Atlas leads the way in concrete recycling, repurposing waste products into recycled aggregates which can often be used in place of virgin aggregates.

In line with the company goals and commitment to being an environmentally conscious ready mixed concrete supplier, in 2024 Atlas developed and released GreenStone LCC, a low-carbon concrete range designed to reduce embodied carbon and CO2 emissions. GreenStone LCC achieves this by substituting cement with industrial by-products such as Blast Furnace Slag (BFS) and Fly Ash, which not only reduce carbon emissions but also improve the durability of the concrete.

At all the large Auckland metropolitan plants, Atlas have invested in central mixers to ensure the most efficient mixing and the lowest possible cement contents and hence minimised environmental impact. Atlas is the only concrete company in the metropolitan Auckland area to have all plants with central mixers. Only the smaller rural plants at Ruakaka and Brynderwyn plants use truck mixing.

Product-related or management system-related certifications
All concrete produced meets NZS3104:2021 Specifications for concrete production

Two Atlas plants have achieved Gold Excellence recognition from the NZ Ready Mix Concrete Plant Audit Scheme.
Only 12 plants nationally have achieved this.

Product Information

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Project Name:	9 Kakano Road, Westgate, Auckland
Production Site:	Atlas Kumeu
Product Name:	2 MPa 7mm Flowable Fill
Product Identification:	KU848002
Bulk Density of 1m^3	2 051 kg/ m3.
Product description:	Ready Mixed Concrete used for construction
UN CPC code:	UN CPC 375 (articles of concrete, cement and plaster)
ANZSIC Classification:	2033 Ready Mix Concrete Manufacturing
Geographical scope:	Auckland and Northland Regions, New Zealand

Content Declaration

The product composition is as shown in Product Composition Table below:

Product Composition Table

Ingredient	Proportion (% m/m)	Post-consumer Recycled material (mass %)	Biogenic Material (mass %)	Biogenic Material, kg C per declared unit
General Purpose Cement	5-20%	0%	0%	0
Supplementary Cementitious Material	0-15%	0%	0%	0
Aggregates	30-60%	0%	0%	0
Natural Sand	20-35%	0%	0%	0
Water	3-11%	0%	0%	0
Admixtures	0.1-0.4%	0%	0%	0
Total	**2 051 kg/m^3**	**0%**	**0%**	**0**

The concrete mix that this EPD covers does not contain substances in the "Candidate List of Substances of Very High Concern" in the European Chemicals Agency in concentrations >0.1% of the weight of the product.+

The product code for ready mixed concrete is UN CPC 375 (Articles of concrete, cement and plaster).

LCA Information

Declared unit:	One cubic metre of ready mixed concrete
Scope:	Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3, + A4 + C1-C4 + D)
Time representativeness:	All data for the LCA is based on 2024 Financial Year (2024FY) production data, ie 2023-04-01 – 2024-03-31
Database(s) and LCA software used:	For the purposes of creating this EPD, the GCCA Tool has been employed.
Pre-verified LCA Tool:	GCCA Industry EPD Tool v2.0.1 for Cement and concrete (v6.0), Verified by Elia Rillo, Consultant and Project Manager, Studio Fieschi
LCA Database:	GCCA EPD Tool LCA Database v6.0, 9 September 2026
Description of system boundaries:	Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3) + A4 + C + D.

Transport to the Building Site

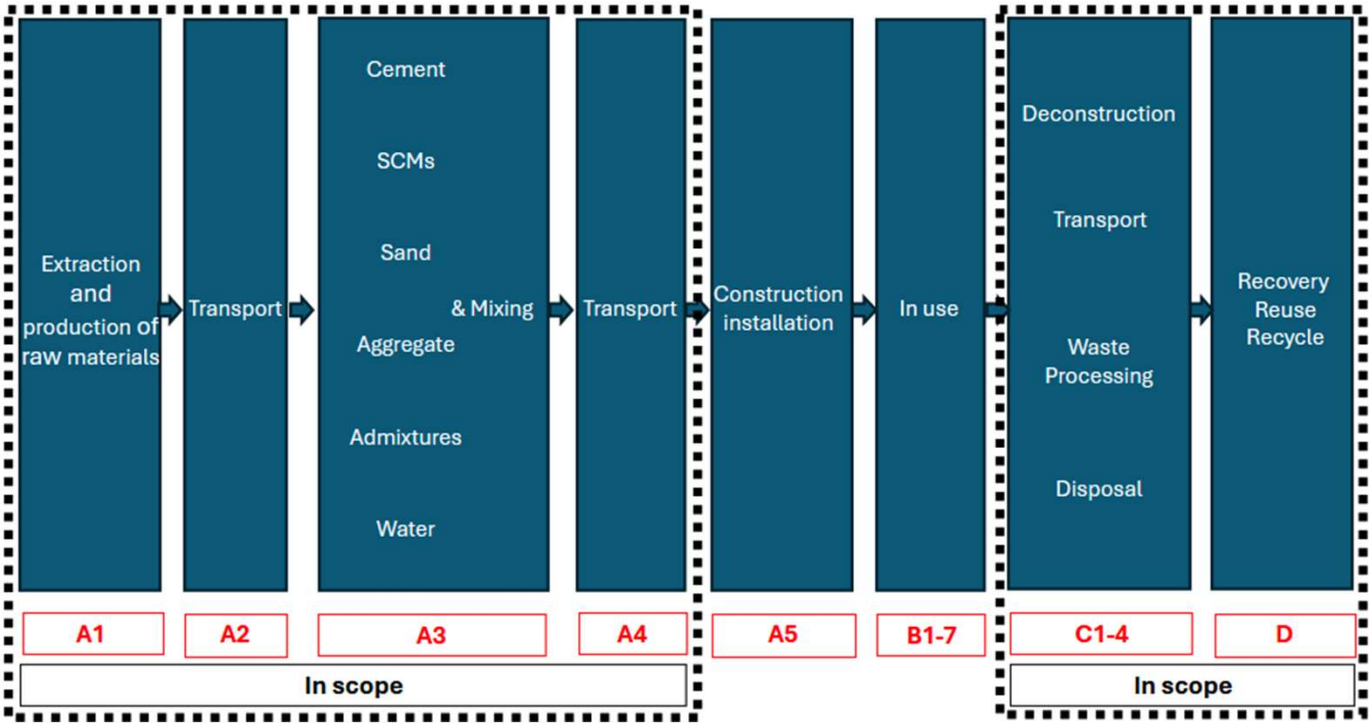
Travel Distance to and from site: 16.2 km

Diesel consumption data is generated from the default GCCA Tool data, which in turn derives it from the Ecoinvent data, using the assumptions as below :

Capacity utilisation (incl empty returns):	50%
Default Truck Type:	>32t
Default Emissions Standard:	Euro 4

System diagram

The System boundary is the black dotted line



Raw Material Suppliers

Plant	Cement	Aggregate	Sand
Takapuna	Golden Bay	Stevenson	Mt Rex
Kumeu	Golden Bay	Stevenson	Mt Rex
Wiri	Golden Bay	Stevenson	Mt Rex
Silverdale	Golden Bay	Stevenson	Mt Rex
Panmure	Golden Bay	Stevenson	Mt Rex
Warkworth	Golden Bay	Atlas Quarries	Mt Rex
Ruakaka	Golden Bay	Atlas Quarries	Semenoff
Brynderwyn	Golden Bay	Atlas Quarries	Semenoff

Data Quality Assessment

The concrete itself is produced at each plant using highly accurate Command batching systems and all quantities are recorded for each individual mix.

Data Quality Assessment Method Used

The data quality assessment in the GCCA Tool has been conducted using the data quality level and criteria schemes of the Product Environmental Footprint (PEF) method (European Commission 2021).

Process	Source Type	Source	Reference Year	Data Category	Share of Primary Data GWP-GHG;A1-A3)
Cement, Golden Bay Cement	EPD	EPD-IES-0012939:001	2024	Primary data	35-80%
Coarse Aggs Stevenson	EPD	EPD-IES-0018195:001	2024	Primary data	0-3%
Coarse Aggs Atlas Quarries	Database	ecoinvent v3.10	2023	Secondary data	0-3%
Sand Mt Rex Shipping	Database	ecoinvent v3.10	2023	Secondary data	0%
Sand Semenoff	Database	ecoinvent v3.10	2023	Secondary data	0%
Transport from Suppliers	Database	Google Earth (2025)/ Ecoinvent v3.10	2025/2023	Primary data	7%
Electricity	Literature/ Database	BraveTrace (2024) / ecoinvent 3.10	2024/2023	Primary data	0-1%
Manufacturing	Collected/Database	EPD Owner	2023-2024	Primary data	1%
Transport to Waste	Database	Google Earth (2025)/ Ecoinvent v3.10	2025/2023	Secondary data	0%
End of Life Demolition	Literature	Default values from PCR 2019:14 v2.0.1; Erlandson et al. (2015), OVAM (2018)	2015	Secondary Data	
End of Life Transport	Literature	Default values from PCR 2019:14 v2.0.1; Erlandson et al. (2015), OVAM (2018)	2015	Secondary Data	
End of life Waste processing	Literature	Default values from PCR 2019:14 v2.0.1; Erlandson et al. (2015), OVAM (2018)	2015	Secondary Data	
End of Life Disposal	Literature	Default values from PCR 2019:14 v2.0.1; Erlandson et al. (2015), OVAM (2018)	2015	Secondary Data	
Benefits and Loads	Literature	Default values from PCR 2019:14 v2.0.1; Erlandson et al. (2015), OVAM (2018)	2015	Secondary Data	
** Total Share of primary data of GWP-GHG results for A1-A3*					*87%*

** The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of primary data to increase the representativeness of and comparability between EPD's.*

Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.

Data Quality Information

The data assessed does not include any fair, poor or very poor data.

Background Data

Atlas Concrete has collected and supplied the primary data for the ready mixed concrete LCA based on the FY24 reporting period (1 April 2023 – 31 March 2024). The mixed design for the EPD is current at the time of publication. Background data is provided from the GCCA Tool v6.0. for al non EPD mix ingredients.
The GCCA Tool uses ecoinvent database version 3.10.

Allocation

Production: Allocation was carried out on a per cubic metre basis and so it is assumed that production resources are allocated equally per cubic meter of production.

Aggregates: Coarse aggregates and PAP are produced by crushing rock and graded into different sizes. The energy for crushing and screening is allocated based on mass, resulting in all aggregates from the same quarry or plant having the same environmental profile.
Fly Ash: Flyash is sourced from power plants and the environmental impacts of the power plant are allocated to the electricity produced, so the Fly ash only bears the transportation burdens to our site. This is described in the EPDs, Holcim EnviroCore 201 & 202.
The upstream EPD used as data source for Fly Ash is not fully compliant with the PCR2019:14 v2.0.1 section 4.5.1 requirements for the economic allocation of co-products used in cement and concrete to which the downstream EPD is verified. The upstream EPD for this product was used as a data source as it is the best available data. Please refer to the data quality assessment table for further details.

Blast Furnace Slag (BFS): BFS is a co-product of steelmaking but then requires drying and grinding before it can be used as a raw material in concrete. This is described in the EPD for Holcim EnviroCore 100.

Atlas Suppliers with EPDs used for Source Data

Material	Supplier	Product	EPD ID	Expires
Cement	Golden Bay	EcoSure GP Cement	EPD-IES-0012939:001	2029-08-30
BFS (Blast Furnace Slag)	Holcim	EnviroCore 100	S-P-08439	2030-06-12
Fly Ash	Holcim	EnviroCore 201	S-P-08440	2028-06-06
Fly Ash	Holcim	EnviroCore 202	S-P-08441	2028-06-06
Coarse Aggregate	Stevenson Aggregate	Spec Concrete	EPD-IES-0018195:001	2029-12-05

Electricity

Electricity has been calculated using data from BraveTrace (2024) calculating the estimated residual electricity grid mix in New Zealand. The GWP-GHG of the electricity is 0.18 kg CO_2e kWh. The residual mix is made up of 60% hydro, 20% geothermal, 11% gas, wind 7% and other 2%.

Packaging

Ready Mixed Concrete is not produced with any packaging so there is no need to include info for this.

Cut-off Rules

As per EN 15804:2012+A2:2019, the cut-off limit for the study was inputs contributing less than 1% energy or mass.

The contribution of foreground Capital Equipment such as plant and machinery and personnel are non-attributable and are excluded from the system boundary. In the GCCA Tool the (background) infrastructure is however included by default in the ecoinvent database used in the model.

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	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	NZ	NZ	NZ	NZ	NZ	NZ	NZ	NZ	NZ	NZ	NZ	NZ	NZ	NZ	NZ	NZ	NZ
Specific Data	~87%																
Variation products	Not Relevant																
Variation sites	0% (n/a)																

Notes on the above

The scope of the LCA and EPD is from cradle to gate (A1-A3) with options, module A4, modules C1-C4 and module D. The following life cycle stages have not been declared, as they are deemed not applicable:

- Construction Installation (A5)
- Material emissions from usage (B1);
- Maintenance (B2);
- Repair (B3);
- Replacement (B4);
- Refurbishment (B5);
- Operational energy use (B6), and
- Operational water use (B7).

The reported share of primary data is associated with uncertainty, as several EPD's used as data source lack information on the share of primary data..

End of Life

While there are numerous concrete recycling centres in Auckland, no official data exists on the proportion of concrete that is currently recycled, so we have assumed the recycling rate is 0%.

No CO2 uptake or recarbonisation has taken place in any module declared.

Processes		Unit
Collection process specified by type	2400	kg collected separately
	0	kg collected with mixed construction waste
Recovery system specified by type	0	kg for re-use
	0	
	0	kg for recycling
		kg for energy recovery
Disposal to Landfill	2400	kg product or material for final deposition
Assumptions for scenario development, transportation		The default values from PCR 2019:14 (v2.0.1) table 4 have been used in the GCCA model for modules C1, C2, C3 and C4.

Default data for modelling modules C1, C2, C3 and C4 (Assuming 2,400KG per m^3)

Module & process	Quantity	Energy Carrier / Transport Means
C1: Demolition/deconstruction of concrete/reinforced concrete	24 kWh/m3	diesel
C2: Transport (for products/materials not to be incinerated)	80km	16-32 tonne lorry (EURO 5)
C3: Loading and unloading at sorting facility	4.3 kWh/m3	diesel
C3: Mechanical sorting	5.3 kWh/m3	electricity
C3: Crushing of concrete	4.8 kWh/m3	diesel
C4: Compacting of inert construction waste for landfills (including backfilling)	3.8 kWh/m3	diesel

More Information

The GCCA Tool is a web-based calculation tool for EPDs of clinker, cement, aggregates, concrete and precast elements, The complies with the latest concrete PCRs registered at the International EPD® System (www.environdec.com), namely c-PCR-003 Concrete and concrete elements (EN 16757) for concrete and precast elements, both registered as complementary PCRs of PCR 2019:14 Construction products (EN15804+A2) (2.0.1).

The tool produces a background report with the complete set of input data and results of the specific product. This document is in the form of an Excel file that contains all the information required to produce an EPD and also for a verifier to validate it.

The GCCA Tool is widely used globally.

Environmental Performance

Notes:

1. The results of modules A1-A3 should not be used in isolation, without also considering the results of module C
2. 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.

Mandatory impact category indicators according to EN 15804

Core Environmental Impact Indicators

Results per 1 m^3

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq.	9.29E1	1.78E0	8.68E0	3.21E1	3.56E0	1.18E0	0.00E0
GWP-fossil	kg CO_2 eq.	9.33E1	1.78E0	8.68E0	3.21E1	3.56E0	1.18E0	0.00E0
GWP-biogenic	kg CO_2 eq.	9.42E-3	3.10E-4	9.49E-4	5.28E-3	1.05E-3	1.02E-4	0.00E0
GWP-luluc	kg CO_2 eq.	3.78E-2	7.20E-4	7.54E-4	1.27E-2	3.51E-4	1.03E-4	0.00E0
ODP	kg CFC 11 eq.	3.40E-7	2.77E-8	1.33E-7	4.48E-7	5.54E-8	1.81E-8	0.00E0
AP	mol H+ eq.	3.18E-1	7.40E-3	7.83E-2	1.07E-1	2.91E-2	1.07E-2	0.00E0
EP-freshwater	kg P eq.	2.33E-3	1.40E-4	2.54E-4	2.52E-3	7.47E-4	3.46E-5	0.00E0
EP-marine	kg N eq.	1.15E-1	2.69E-3	3.63E-2	3.47E-2	1.23E-2	4.95E-3	0.00E0
EP-terrestrial	mol N eq.	1.45E0	2.94E-2	3.98E-1	3.77E-1	1.34E-1	5.42E-2	0.00E0
POCP	kg NMVOC eq.	3.60E-1	1.07E-2	1.19E-1	1.49E-1	4.05E-2	1.62E-2	0.00E0
ADP-minerals & metals*	kg Sb eq.	5.92E-5	5.00E-6	3.19E-6	1.05E-4	1.85E-5	4.34E-7	0.00E0
ADP-fossil*	MJ	5.82E2	2.59E1	1.14E2	4.50E2	4.63E1	1.55E1	0.00E0
WDP*	m^3 world eq. deprived	2.32E1	1.24E-1	2.78E-1	2.03E0	1.71E-1	3.79E-2	0.00E0
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADPE Abiotic depletion potential for non- fossil resources; ADPF = Abiotic depletion potential for fossil resources potential; WDP = (Water (user) deprivation potential, deprivation-weighted water consumption)							

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.
The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).
The results of this environmental indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Additional Environmental Impact indicators (per 1 m^3)

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
GWP-GHG	kg CO_2 eq.	9.29E1	1.78E0	8.68E0	3.21E1	3.56E0	1.18E0	0.00E0
PM	Disease incidence	7.05E-3	1.82E-7	2.23E-6	2.54E-6	7.37E-7	3.03E-7	0.00E0
IRP	kBq U235 eq.	3.89E-1	2.29E-2	5.09E-2	3.70E-1	2.12E-2	6.94E-3	0.00E0
ETP	CTUe	3.33E2	6.24E0	1.61E1	1.20E2	9.82E0	2.19E0	0.00E0
HTPC	CTUh	1.09E-7	8.88E-9	3.39E-8	1.66E-7	1.42E-8	4.63E-9	0.00E0
HTPNC	CTUh	1.62E-7	1.71E-8	1.55E-8	2.88E-7	2.27E-8	2.11E-9	0.00E0
SQP	Dimensionless	6.57E2	2.61E1	7.98E0	2.69E2	3.68E0	1.09E0	0.00E0
Acronyms	PM = Potential incidence of disease due to PM emissions IRP = Potential Human exposure efficiency relative to U235 ETP = Potential Comparative Toxic Unit for ecosystems HTPC = Potential Comparative Toxic Unit for humans - cancer HTPNC = Potential Comparative Toxic Unit for humans - non-cancer SQP = Potential soil quality index GWP-GHG = Global Warming Potential – Greenhouse Gases							

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 the effects due to possible nuclear accidents, occupational exposure or 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 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 Indicators (per 1 m^3)

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
PERE	MJ	1.82E2	3.41E-1	6.97E-1	5.91E0	3.56E1	9.50E-2	0.00E0
PERM	MJ	1.42E-1	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
PERT	MJ	1.82E2	3.41E-1	6.97E-1	5.91E0	3.56E1	9.50E-2	0.00E0
PENRE	MJ	5.41E2	2.59E1	1.14E2	4.50E2	4.63E1	1.55E1	0.00E0
PENRM	MJ	4.07E1	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
PENRT	MJ	5.82E2	2.59E1	1.14E2	4.50E2	4.63E1	1.55E1	0.00E0
SM	kg	8.11E-1	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
RSF	MJ	6.90E1	2.80E-3	0.00E0	4.25E-2	8.37E-2	1.08E-3	0.00E0
NRSF	MJ	6.06E-1	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
NFW	m^3	2.64E0	3.82E-3	7.38E-3	5.82E-2	4.50E-3	1.01E-3	0.00E0
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy 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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water							

Waste Indicators

Results per 1 m^3

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste disposed	kg	1.85E-1	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
Non-hazardous waste disposed	kg	5.53E1	0.00E0	0.00E0	0.00E0	0.00E0	2.05E3	0.00E0
Radioactive waste disposed	kg	5.73E-4	5.60E-6	1.25E-5	9.06E-5	5.22E-6	1.70E-6	0.00E0

The 'Non-hazardous waste disposed' (NHWD) and 'Hazardous waste disposed' (HWD) indicators in the tool relate only to the foreground of the clinker, cement and concrete, where cement inherits the impacts from clinker and concrete inherits the impacts from cement.

Output Flow Indicators

Results per 1 m^3

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
Components for re-use	kg	2.29E-3	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
Material for recycling	kg	1.21E-3	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
Materials for energy recovery	kg	3.28E-6	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
Exported energy, electricity	MJ	1.43E-3	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
Exported energy, thermal	MJ	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0

Additional Environmental Information

The GCCA Tool uses EF3.1 based EN1580+A2 impact assessment methodology for the GWP indicators.

See the PCR and sections 5.4, 7.3 and 7.4 in EN 15804.

An EPD based on an old EF version (EF 3.0) has been used as a data source, and it was assessed to yield identical or conservative results compared to using the EF3.1

The energy balancing as per PCR 2019:14 Construction Products v2.0.1 is performed according to Option B (see Annex 3 of the PCR).

The results of the impact categories abiotic depletion of minerals and metals, land use, human toxicity (cancer), human toxicity, non-cancer and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes.

The 'Water deprivation potential' (WDP) indicator is characterised according to global characterization factors and not local ones.

Differences Versus Previous Versions

Version	Date	Description of Differences compared with previous version

Abbreviations

Abbreviation	
BFS	Blast furnace slag
c-PCR	Complimentary Product Category Rules
CPC	Central Product Classification
EN	European Norm (Standard)
EPD	Environmental Product Declaration
GPI	General Program Instructions
ISO	International organization for Standardization
kWh	kilo Watt hour
ND	Not Declared
PCR	Product Category Rules
SCM	Supplementary Cementitious Material

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Version History

Original Version of the EPD	2026-10-27

Notes on the use of this 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.