# Ready Mix Concrete Environmental Product Declaration

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

## 30Mpa 10mm Structural Fine Pump 14 Cadman Avenue, Waterview, Auckland

Supplied from

## Atlas Concrete Wiri

| | |
|---|---|
| Programme: | The International EPD® System, www.environdec.com |
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| Version | 2.0 |

*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*

# Contents

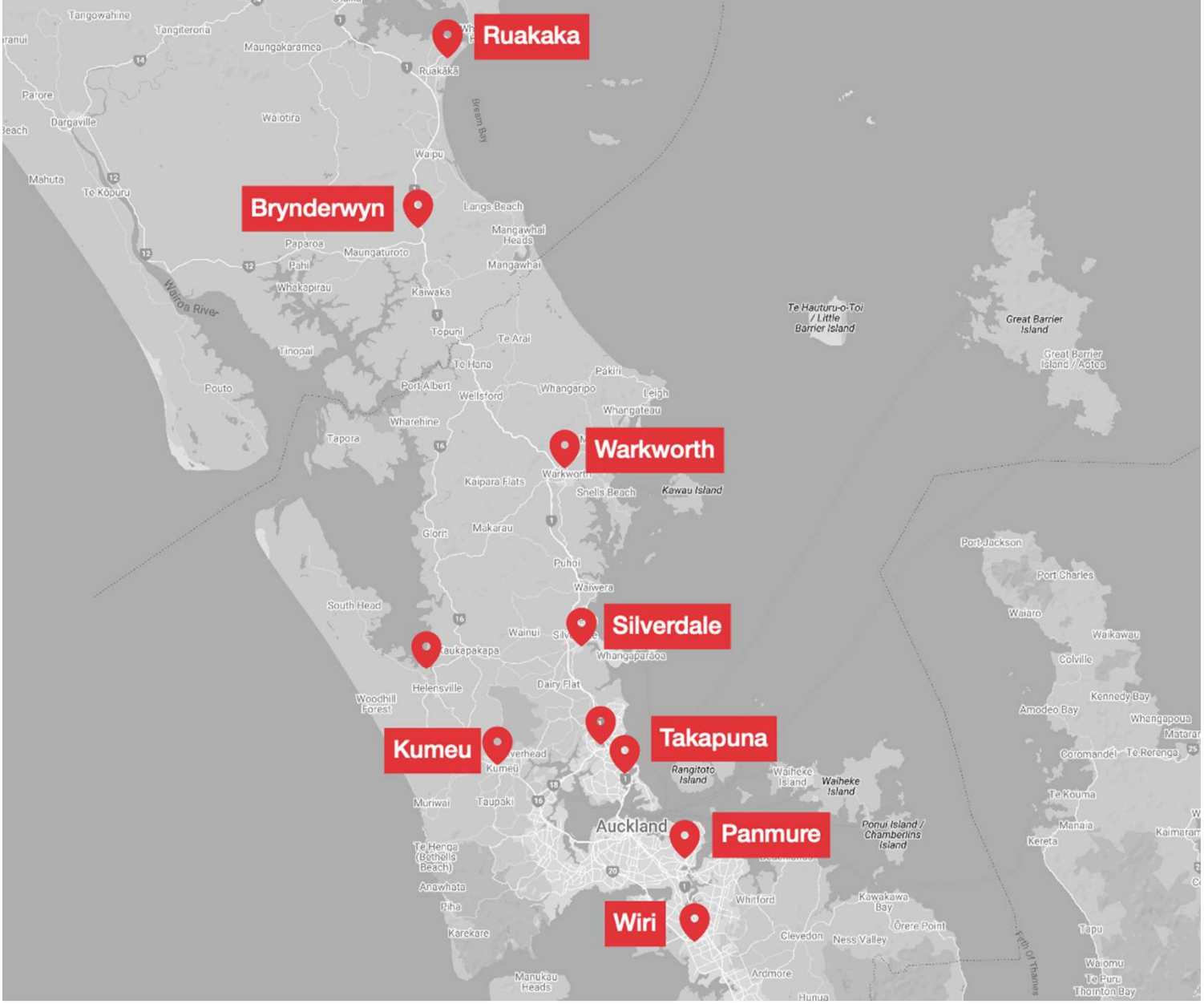
# About Atlas Concrete

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 & Project information

| | |
|---|---|
| Project Name: | 14 Cadman Avenue, Waterview |
| Production Site: | Atlas Wiri |
| Product Name: | 30 MPa 10mm Structural Fine Pump Concrete |
| Product Identification: | WI246S |
| Bulk Density of $1m^3$ | 2,307kg/ 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 |

## Transport to the building site

Travel Distance to and from site: 42km

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 |

## Product Content

| Product components by weight | Lower Level % | High Level % | Post consumer material, weight % | Renewable Material, weight % |
|---|---|---|---|---|
| Cement | 5 | 20 | 0 | 0 |
| Supplementary Cementitious Materials | 0 | 15 | 0 | 0 |
| Aggregates | 50 | 85 | 0- 40 (if recycled aggregates used) | 0 |
| Water | 3 | 11 | 0 | 0 |
| Admixtures | 0.1 | 0.4 | 0 | 0 |
| Reinforcement | 0 | 2 | 0 | 0 |

Table 1

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.

# 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 + C + 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 for Cement and concrete (V5.0), Verified by Elia Rillo, Consultant and Project Manager, Studio Fieschi |
| LCA Database: | GCCA EPD Tool LCA Database v5.0, 03 February 2025 |
| Description of system boundaries: | Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3) + A4 + C + D. |

## System diagram

The System boundary is the black dotted line

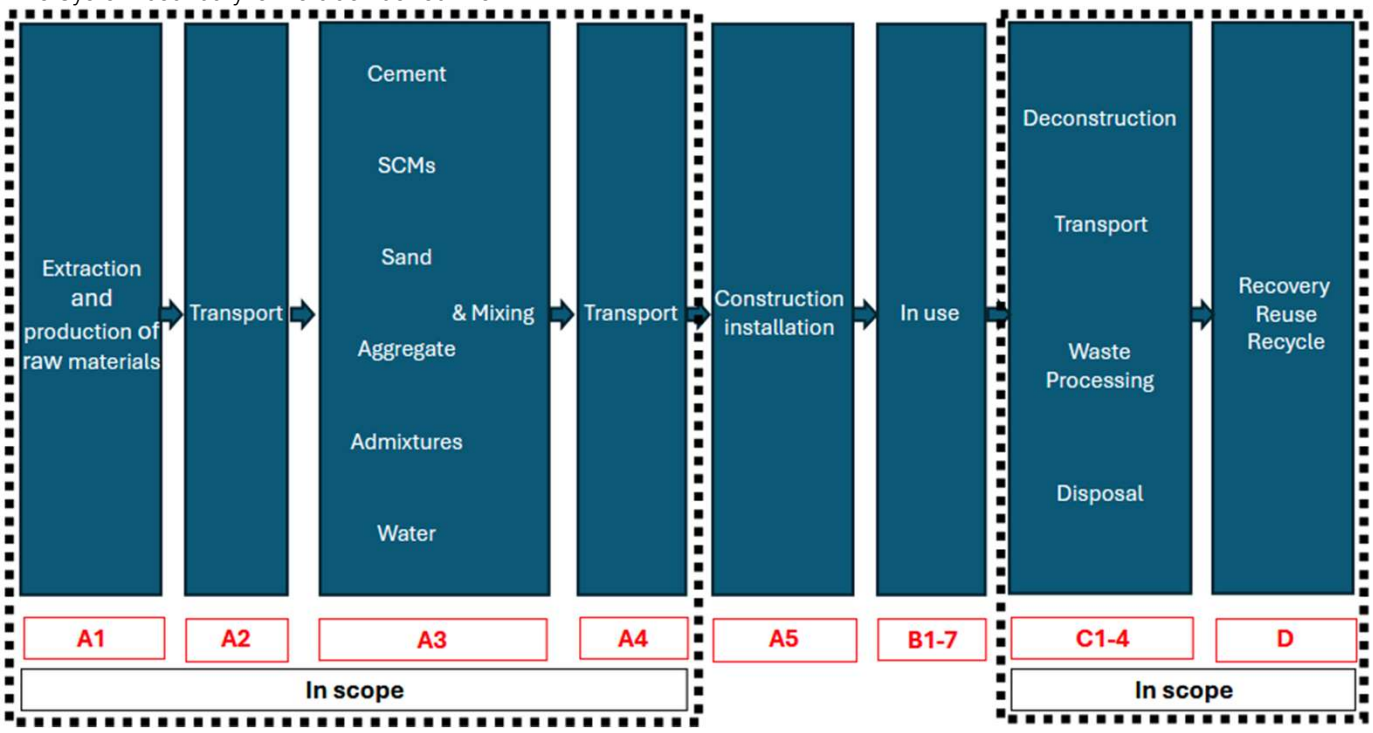



Figure 1

# 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

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 method used

The GCCA Tool uses Data quality level and criteria from the Product Environmental Footprint Category Rules

| Module | Input/output | Source | Time Period | Data Quality |
|---|---|---|---|---|
| A1 | Cement | EcoSure GP Cement EPD | As per EPD, | Very Good, |
| | Coarse Aggs | Stevenson: From Stevenson Aggregate EPD | As per EPD | Very Good |
| | | Atlas Quarries: Default GCCA Tool settings | n/a | Good |
| | Sand | Mt Rex: Default GCCA Tool settings, noting the default sand (excavated) is used as a proxy for dredged sand. | n/a | Good |
| | | Semenoff: Default GCCA Tool settings | n/a | Good |
| A2 | Transport from Suppliers | Raw material location, transport type, truck information and measured distances | 2024FY internal data and from suppliers | Very Good |
| A3 | Manufacturing | Actual electricity, site diesel and water inputs<br>Both actual and estimated waste outputs<br>Annual production volumes | 2024FY internal data.<br><br>Electricity, residual supply mix from Bravetrace for the PY24 (2023-04-01 to 2024-03-31)<br>Hydro 61%<br>Wind 7%<br>Geothermal 20%<br>Gas 11%<br>Coal 1%<br><br>The climate impact for electricity used in A3 is approximately 0.172 kg CO2 eq./kWh | Very Good |
| A4 | Transport | Outbound travel – projects specific outbound distances are used | Upon EPD creation | Very Good |
| C1 | End of Life Demolition | Default GCCA Tool settings | n/a | Good |
| C2 | End of Life Transport | Default GCCA Tool settings | n/a | Good |
| C3 | End of life Waste processing | Default GCCA Tool settings | n/a | Good |
| C4 | End of Life Disposal | Default GCCA Tool settings | n/a | Good |
| D | Benefits and Loads | Default GCCA Tool settings | n/a | Good |

Table 2

## 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.

Blast Furnace Slag (BFS): BFS is a by-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 | 2028-06-07 |
| 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 |

Table 3

## 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 | ~70% | | | | | | | | | | | | | | | | |
| Variation products | Not Relevant | | | | | | | | | | | | | | | | |
| Variation sites | 0% | | | | | | | | | | | | | | | | |

Table 4

**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 percentage of specific data is assumed to be larger than 60%, but it cannot be proved since one of the suppliers EPDs that are used as data sources lack information on the percentage of specific data used.

End of Life

We have used the GCCA Tool defaults, but note:

- C1 Deconstruction /Demolition: The life-cycle inventory used in the GCCA model is based on ecoinvent 3.10 values for "Energy for dismantling and handling" in the waste management dataset "Treatment of waste concrete, not reinforced, sorting plant, GLO".
- C2 Transport: The distance for waste collecting from construction site (C2) to landfill plant is assumed 50km.
- C3 Waste Processing: It's assumed that there is no recycling for the product at the end of life, so the C3 impact is 0.
- C4 Disposal: All products are assumed to be landfilled
- No CO2 uptake or recarbonisation has taken place in any module declared.

## 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) (1.3.4).

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.

# Results of the environmental performance indicators

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-fossil | kg $CO_2$ eq. | 2.21E2 | 5.18E0 | 9.63E0 | 1.00E1 | 0.00E0 | 1.44E1 | 0.00E0 |
| GWP-biogenic | kg $CO_2$ eq. | 4.47E-2 | 2.13E-4 | 1.05E-3 | 2.15E-3 | 0.00E0 | 1.99E-3 | 0.00E0 |
| GWP-luluc | kg $CO_2$ eq. | 1.80E-2 | 2.10E-3 | 8.36E-4 | 4.81E-3 | 0.00E0 | 7.43E-3 | 0.00E0 |
| GWP-total | kg $CO_2$ eq. | 2.21E2 | 5.18E0 | 9.64E0 | 1.00E1 | 0.00E0 | 1.44E1 | 0.00E0 |
| ODP | kg CFC 11 eq. | 1.36E-6 | 8.08E-8 | 1.47E-7 | 1.45E-7 | 0.00E0 | 4.17E-7 | 0.00E0 |
| AP | mol H+ eq. | 7.09E-1 | 2.16E-2 | 8.69E-2 | 5.21E-2 | 0.00E0 | 1.02E-1 | 0.00E0 |
| EP-freshwater | kg P eq. | 1.66E-3 | 1.33E-4 | 9.17E-5 | 3.36E-4 | 0.00E0 | 3.91E-4 | 0.00E0 |
| EP-marine | kg N eq. | 2.34E-1 | 7.85E-3 | 4.03E-2 | 1.95E-2 | 0.00E0 | 3.90E-2 | 0.00E0 |
| EP-terrestrial | mol N eq. | 2.80E0 | 8.56E-2 | 4.41E-1 | 2.12E-1 | 0.00E0 | 4.25E-1 | 0.00E0 |
| POCP | kg NMVOC eq. | 6.88E-1 | 3.13E-2 | 1.32E-1 | 7.11E-2 | 0.00E0 | 1.52E-1 | 0.00E0 |
| ADP-minerals & metals* | kg Sb eq. | 7.36E-5 | 1.46E-5 | 3.53E-6 | 2.74E-5 | 0.00E0 | 2.30E-5 | 0.00E0 |
| ADP-fossil* | MJ | 1.10E3 | 7.56E1 | 1.26E2 | 1.41E2 | 0.00E0 | 3.54E2 | 0.00E0 |
| WDP* | $m^3$ world eq. deprived | 1.82E1 | 3.63E-1 | 3.09E-1 | 8.24E-1 | 0.00E0 | 9.90E-1 | 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) | | | | | | | |

Table 6

* 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 Environmental Impact indicators

Results per 1 $m^3$

| Indicator | Unit | A1-A3 | A4 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|
| PM | Disease incidence | 7.28 E-3 | 5.30 E-7 | 2.47 E-6 | 1.10 E-6 | 0.00 E0 | 2.32 E-6 | 0.00 E0 |
| IRP | kBq U235 eq. | 4.16 E-1 | 6.68 E-2 | 5.65 E-2 | 1.82 E-1 | 0.00 E0 | 2.26 E-1 | 0.00 E0 |
| ETP | CTUe | 7.52 E2 | 1.82 E1 | 1.79 E1 | 4.07 E1 | 0.00 E0 | 4.84 E1 | 0.00 E0 |
| HTPC | CTUh | 1.29 E-7 | 2.59 E-8 | 3.77 E-8 | 6.42 E-8 | 0.00 E0 | 6.52 E-8 | 0.00 E0 |
| HTPNC | CTUh | 3.55 E-7 | 5.00 E-8 | 1.72 E-8 | 9.05 E-8 | 0.00 E0 | 6.37 E-8 | 0.00 E0 |
| SQP | Dimensionless | 1.13 E3 | 7.61 E1 | 8.86 E0 | 1.32 E2 | 0.00 E0 | 6.96 E2 | 0.00 E0 |
| Acronyms | PM = Potential incidence of disease due to PM emissions<br>IRP = Potential Human exposure efficiency relative to U235<br>ETP = Potential Comparative Toxic Unit for ecosystems<br>HTPC = Potential Comparative Toxic Unit for humans - cancer<br>HTPNC = Potential Comparative Toxic Unit for humans - non-cancer SQP = Potential soil quality index | | | | | | | |

Table 6

## Resource use indicators

Results per 1 $m^3$

| Indicator | Unit | A1-A3 | A4 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|
| PERE | MJ | 3.61 E2 | 9.94 E-1 | 7.73 E-1 | 2.76 E0 | 0.00 E0 | 3.28 E0 | 0.00 E0 |
| PERM | MJ | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 |
| PERT | MJ | 3.61 E2 | 9.94 E-1 | 7.73 E-1 | 2.76 E0 | 0.00 E0 | 3.28 E0 | 0.00 E0 |
| PENRE | MJ | 1.06 E3 | 7.56 E1 | 1.26 E2 | 1.41 E2 | 0.00 E0 | 3.54 E2 | 0.00 E0 |
| PENRM | MJ | 3.78 E1 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 |
| PENRT | MJ | 1.10 E3 | 7.56 E1 | 1.26 E2 | 1.41 E2 | 0.00 E0 | 3.54 E2 | 0.00 E0 |
| SM | kg | 2.15 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 |
| RSF | MJ | 1.82 E2 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 |
| NRSF | MJ | 1.64 E-1 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 |
| NFW | $m^3$ | 2.55 E0 | 1.11 E-2 | 8.19 E-3 | 2.36 E-2 | 0.00 E0 | 3.67 E-1 | 0.00 E0 |
| Acronyms | PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials;<br>PERM = Use of renewable primary energy resources used as raw materials;<br>PERT = Total use of renewable primary energy resources;<br>PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;<br>PENRM = Use of non-renewable primary energy resources used as raw materials;<br>PENRT = Total use of non-renewable primary energy re-sources;<br>SM = Use of secondary material; RSF = Use of renewable secondary fuels;<br>NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water | | | | | | | |

Table 7

## Waste indicators

Results per 1 $m^3$

| Indicator | Unit | A1-A3 | A4 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|
| Hazardous waste disposed | kg | 1.75 E-1 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 |
| Non-hazardous waste disposed | kg | 2.60 E1 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 2.31 E3 | 0.00 E0 |
| Radioactive waste disposed | kg | 3.50 E-1 | 1.63 E-5 | 1.38 E-5 | 4.47 E-5 | 0.00 E0 | 5.50 E-5 | 0.00 E0 |

Table 8

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 | 6.05 E-3 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 |
| Material for recycling | kg | 1.12 E2 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 |
| Materials for energy recovery | kg | 3.10 E-6 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 |
| Exported energy, electricity | MJ | 4.25 E-3 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 |
| Exported energy, thermal | MJ | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 | 0.00 E0 |

Table 9

## Extra indicators

Results per 1 $m^3$

| Indicator | Unit | A1-A3 | A4 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|
| GWP-GHG | kg $CO_2$ eq. | 2.21 E2 | 5.18 E0 | 9.64 E0 | 1.00 E1 | 0.00 E0 | 1.44 E1 | 0.00 E0 |
| Acronyms | GWP-GHG= Global Warming Potential of Greenhouse Gases. | | | | | | | |

Table 10

# 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 v1.3.4 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 |
|---|---|---|
| 002 | 21/07/25 | Changed validity date on Page 1 from 2029-06-16 to 2030-06-16 |
| | | |
| | | |
| | | |
| | | |

# References


General Programme Instructions of the International EPD® System. Version 4.0.

PCR 2019:14. Product Category Rules (PCR) 2019:14 Construction products (EN 15804+A2), Version 1.3.4 c-PCR-003 Concrete and concrete elements (EN 16757:2022)

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https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/new-zealand-energy-sector-greenhouse-gas-emissions

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# General Information

## Program Information

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| EPD Owner | Atlas Concrete Ltd<br>11 Wairau Rd, Milford, Auckland 0627<br>www.atlasconcrete.co.nz<br>Contact: Neal Higgins, nealh@atlasconcrete.co.nz<br>Atlas Concrete Ltd has the sole ownership, liability, and responsibility for the EPD. |
| Programme Operator: | The International EPD® System<br>EPD International AB, Box 210 60 , SE-100 31 Stockholm, Sweden<br>www.environdec.com<br>info@environdec.com |
| Regional Programme operator | EPD Australasia Limited<br>315a Hardy St, Nelson 7010, New Zealand<br>www.epd-australasia.com<br>info@epd-Australasia.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): Product Category Rules (PCR) 2019:14 Construction products (EN 15804+A2), Version 1.3.4, c-PCR-003 Concrete and concrete elements (EN 16757:2022)

PCR review was conducted by: The Technical Committee of the International EPD® System. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact-us

**Life Cycle Assessment (LCA)**

LCA accountability: Atlas Concrete is accountable for the results of the LCA.

**Third-party verification**

Independent third-party verification of the declaration and data, according to ISO 14025:2006 via:

☒ EPD Process Certification*

Process Certified by:

**Bureau Veritas Certification Sverige AB,**

Fabriksgatan 13 412 50,

Göteborg

is an approved certification body accountable for the third-party verification. The certification body is accredited by SWEDAC, with accreditation number 1236

*For EPD Process Certification, an accredited certification body certifies and reviews the management process and verifies EPDs published on a regular basis. For details about third-party verification procedure of the EPDs, see the General Programme Instructions.

Procedure for follow-up of data during EPD validity involves third party verifier:

☐ Yes ☒ No

## 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.