ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

EPD HUB, HUB-5525
Published on 25.02.2026, last updated on 25.02.2026, valid until 24.02.2031

CN3220100Enhanced

Tandy Concrete

This EPD is intended for business-to-business and/or business-to-consumer communication. Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1. 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.

MANUFACTURER AND SITE

Manufacturer	Tandy Concrete
Address	11 McIntosh Drive, Airlie Beach, Australia
Contact details	sales@tandygroup.com.au
Website	www.tandygroup.com.au
Place of production	11 McIntosh Drive, Airlie Beach, Australia
Place(s) of raw material origin	Australia
Place(s) of installation and use	Australia
Period for data	1st July 2024 to 30th June 2025

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR version 1.2, 24 Mar 2025
cPCR	EN 16757 Product Category Rules for concrete and concrete elements
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Niki Jackson
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Vera Durão, as an authorised verifier acting for EPD Hub Limited

PRODUCT SPECIFICATION

Product name	CN3220100Enhanced
Product reference	-
Concrete type	Ready-mix concrete
Product standards	EN 206
Additional characteristic	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	99

PRODUCT DESCRIPTION

This ready-mixed concrete product is produced in accordance with AS1379:2007(2017) Specification and supply of concrete. The raw materials are proportioned so as to achieve a characteristic strength of 32MPa in accordance with the requirements of clause 6 of that Standard. The nominal maximum aggregate size is 20mm and the nominal consistence is 100mm slump when measured in accordance AS1012.3.1 Determination of properties related to the consistency of concrete - Slump test.

Application: General concrete works

PRODUCT CHARACTERISTICS

Compressive strength class:
N32
Strength evaluation days:
28 days
Exposure class:
A2

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 cubic meter
Declared unit mass, kg	2352
GWP-total, A1-A3 (kg CO_2e)	240
GWP-fossil, A1-A3 (kg CO_2e)	240
Secondary material, inputs (%)	0
Secondary material, outputs (%)	70
Total energy use, A1-A3 (kWh)	231
Net freshwater use, A1-A3 (m^3)	6,35E-01

WHO WE ARE

Tandy Concrete is an independently family-owned Australian pre-mixed concrete supply company proudly established in 1968. As part of the Tandy Group employing over 100 staff across Queensland. We have grown to be become a trusted and reliable concrete supplier throughout Central Queensland.
We supply high-quality pre-mix concrete produced to Australian Standards ensuring our customers receive consistent and reliable materials to all construction applications. All raw materials are sourced from trusted suppliers and meet or exceed the required specifications.

We operate fixed concrete batch plants in Airlie Beach, Mackay, Marian, Rockhampton and Yeppoon. We can also provide mobile site plants for major projects and remote locations. Our modern well-maintained transport fleet ensures we can confidently meet the evolving needs of our customers.

We offer a full range of concrete products including not limited to:

- N & S Grade (20–50+ MPa)
- Flowable fill
- Stabilised sands
- Block fills
- Spray mixes
- Shotcrete

Our fixed and mobile plants are supported by modern fleet of agitator trucks, including six-metre, nine-metre and mini agitators. These trucks can be moved from any of sites to meet the specific needs of each project.

Through vertical integration Tandy Group also own and operate TMR approved hard rock quarries and multiple sand plants allowing us to maintain consistent quality, dependable supply and competitive pricing.

Tandy Concrete has contributed to numerous significant projects including but not limited to:

Project Name:	Location:
Catherine McAuley	Mackay
Resource Centre of Excellence	Mackay
Jenmar	Mackay
Richglen	Mackay
Aldi	Mackay/Airlie
Shute Harbour Units	Airlie Beach
Followmont Transport	Mackay
Hastings Deering Stage 2	Mackay
Bunnings Stores	Mackay
Hastings Deering Stage 1	Mackay
Alliance Aircraft Hanger	Rockhampton
Mental Health Unit	Rockhampton
St Brendan's College	Yeppoon
Edge Apartments 12 Story	Rockhampton
Echelon Apartments 9 Story	Rockhampton
Hospital Bridge	Mackay
Gargett Bridge	Gargett
Hay Point Expansion – HPX 3	Hay Point

We are equally proud to support local builders delivering high quality concrete solutions for residential, commercial, and civil applications across the region.

QUALITY MANAGEMENT

Tandy Concrete is committed to maintaining the highest standards of quality across all operations. Our quality management processes ensure every load of concrete meets industry, regulatory, and customer requirements.

Our Quality Assurance Measures
Regular Raw Material Testing
All raw materials are tested regularly by external NATA-certified laboratories to ensure compliance and performance.

Approved Material Sources
All aggregates and raw materials used in concrete production are sourced exclusively from Department of Transport & Main Roads (DTMR) source assessed sites.

Compliance with Australian Standards
All concrete is manufactured in accordance with Australian Standard AS 1379 and all cement powders and chemical additives comply with their respective Australian Standards.

Documented Mix Designs
Every batch is produced to approved mix designs with detailed records of all additives logged, stored, and traceable in our Axi batch software.

Plant Calibration
All concrete plants undergo full weights and measures recalibration every six months by NATA-accredited calibrators.

Fleet & Insurance
Our transport fleet is fully insured, including $30 million third-party property damage coverage.

INNOVATION & CONTINUOUS IMPROVEMENT

Innovation has always been integral to the way we operate. Over the years Tandy Concrete has delivered many industry firsts driven by our willingness to explore new solutions rather than limiting the services we provide. We continually invest in research, testing, and collaboration to ensure our products meet the evolving needs of our customers and the industries we support.

Recent examples of our innovative concrete solutions include:

High-strength underwater concrete:
A specialized liquid concrete mix designed with an anti-washout admixture capable of being pumped 20 meters underwater while maintaining structural integrity. This mix was developed for pylon remediation works in the Ocean at Hay Point Coal Terminal.

High-performance fiber-reinforced mix:
A custom fiber concrete mix design that delivered both exceptional strength and superior finish ability engineered specifically for super-flat flooring applications during the Hastings Deering robotic pallet racking up-grade.

Lightweight concrete utilizing polystyrene beads:
A carefully engineered lightweight mix incorporating expanded polystyrene beads to significantly reduce density and overall concrete weight. This solution is ideal for projects requiring lower loading on existing concrete structures, enabling safe upgrades and extensions without compromising structural performance. This mix was developed for a multimillion-dollar waterfront mansion on Airlie Beaches waterfront.

These projects demonstrate our commitment to pushing boundaries, solving complex challenges, and delivering tailored solutions that meet the highest technical standards.

CONCLUSION

Tandy Concrete remains committed to delivering high-performing concrete solutions backed by reliability, technical expertise, and a genuine focus on customer success. With a strong regional footprint, integrated supply chain, and an ongoing drive for innovation we continue to support Central Queensland's growth providing the foundations for projects of every scale. Our history, capability, and dedication ensure we are well positioned to meet the challenges of today and the opportunities of tomorrow.

LIFE CYCLE ASSESSMENT

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	x	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy	Operational water	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse, Recovery, Recycling

Not declared = ND.

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. 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.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section.

Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

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	No allocation
Packaging materials	Not applicable
Ancillary materials	Allocated by mass
Manufacturing energy and waste	Allocated by mass

- Economic allocation has been applied to the flyash in the upstream generic process
- Fuel used for mixing 1m3 of concrete was determined based on a 10-minute mixing time of the average load size of 4.6m3, for diesel burned in the full mixing mode of the concrete agitator barrel
- A market-based approach is used in modelling the electricity mix utilised in the factory. Renewables have been removed to provide a conservative approach, with electricity being less than 0.6% of the total impact; this would have very little impact on the results
- Distribution Loss Factor (DLF) of 1.033 was applied to the electricity
- Electricity is composed of 81.10% Coal, 16.66% Gas and 2.24% Oil
- Transport factors for raw materials, Aggregates 20-143km, Admixtures 1110-1120km, Cement 430-600km
- A4, Distance of 8.5km is assumed
- A5, 3% waste, and 73.62MJ of diesel consumed

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	-

This EPD is product and factory specific.

PRODUCT RAW MATERIAL MAIN COMPOSITION

The product is a ready-mix concrete consisting of aggregates, cement, filler, admixtures, and water. Main material categories as per EPD Hub GPI are shown below:

Raw material category	Amount, mass- %	Material origin
Metals	0	-
Minerals	100	Australia
Fossil materials	0	-
Bio-based materials	0	-

SUBSTANCES, REACH - VERY HIGH CONCERN

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

BIOGENIC CARBON CONTENT

Product’s biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0

PRODUCT LIFE CYCLE

MANUFACTURING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production. 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.

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

Ready-mix concrete production starts by transporting the binders, aggregates, and additives to the manufacturing site and storing them into closed silos and containers. The aggregates are then dosed onto a scale and transferred to a concrete mixer. In the mixer, cement is added to the aggregates, after which the material is mixed dry. Water and additives are then added to the mixture, followed by wet mixing. After mixing, the concrete mass is unloaded from the mixer into the tank of the concrete mixer truck, which is transported to the construction site.

No packaging is included as the product is transported with mixer trucks.

TRANSPORT AND INSTALLATION (A4-A5)

The concrete is transported to the building site using an average lorry. Transportation impacts occurred from final products delivery to construction site cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions (A4).

Installation includes the energy used for concrete application. This consists of the energy spent by a concrete mixer truck and a concrete pump. A production loss of 3 % at installation is assumed (A5).

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. Carbonation is not taken into account in this EPD.

PRODUCT END OF LIFE (C1-C4, D)

At the end of its life, the concrete is assumed to be part of a concrete building that is demolished using machinery, consuming energy in the form of diesel (C1).

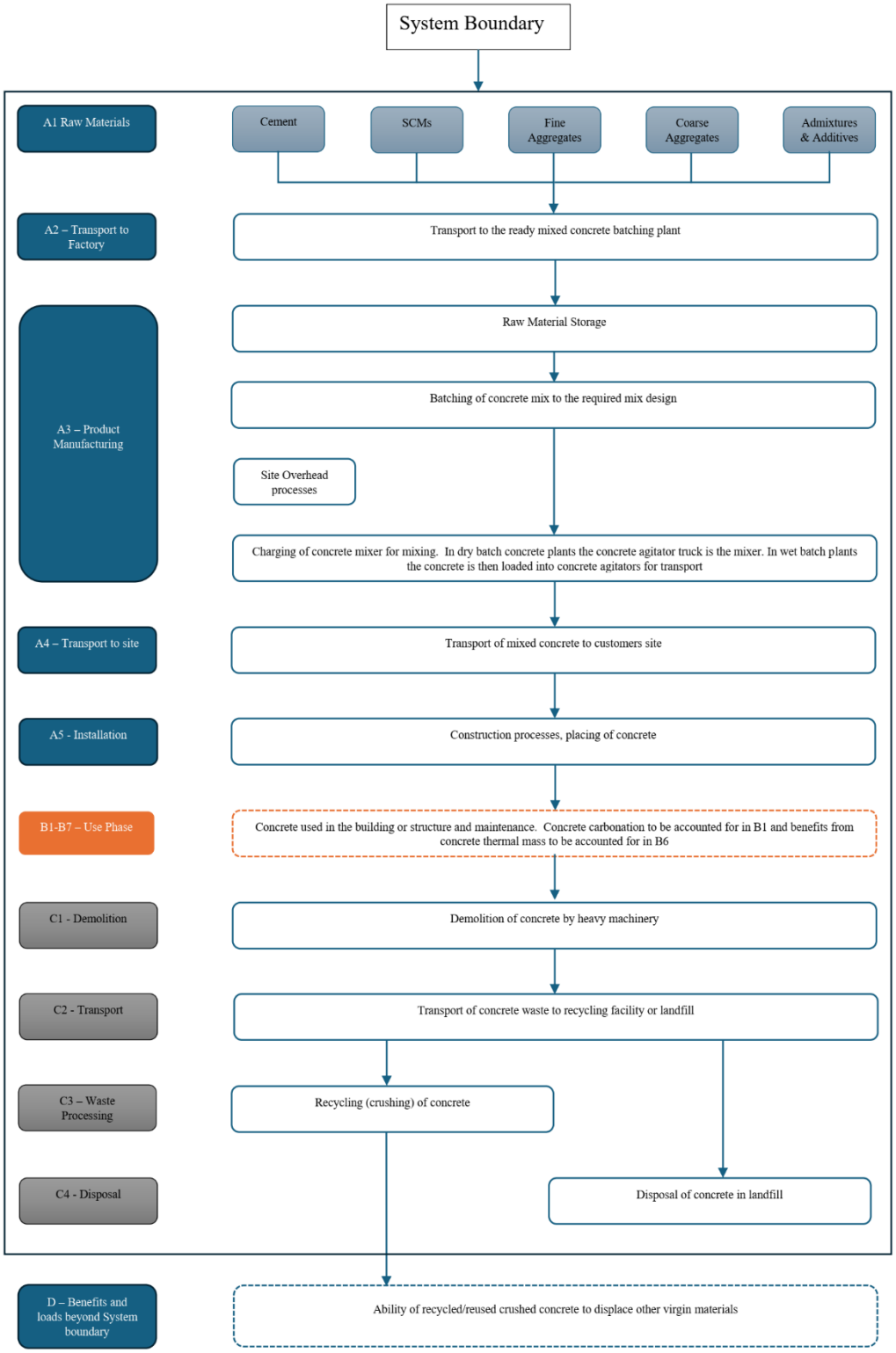
The concrete blocks gotten after the demolition are delivered 50 km by a lorry to the nearest construction waste treatment (C2). It is assumed that 100% of the demolished concrete is transported to a site where this waste is processed by, crushing the blocks to gravel. About 70% of concrete can be recycled this way (C3), with an assumption that non-reinforced concrete is being sorted. The remaining 30% of concrete is assumed to be sent to the landfill for disposal (C4). The crushed concrete received from waste treatment can be used as a replacement for virgin gravel or for raw materials in road construction (D). The process losses of the waste treatment plant are assumed to be negligible.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA Concrete EPD Generator v3.2.1. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent v3.10.1/3.11 and One Click LCA databases were used as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 environmental data sources follow the methodology ‘allocation, cut-off, EN 15804+A2‘.

AS 1379 2007 - Specification and supply of concrete
AS 3600 2018 - Concrete Structures, Table 4.4
Australian energy statistics 2025 - Table O, Australian electricity generation, by state and territory, by fuel type, physical units.
https://www.energy.gov.au/publications/australian-energy-update-2025
Australian Energy Market Operator - Distribution Loss Factors For The 2024/25 Financial Year.
https://www.aemo.com.au/-/media/files/electricity/nem/security_and_reliability/loss_factors_and_regional_boundaries/2024-25-financial-year/distribution-loss-factors-for-2024-25.pdf
Diesel used in the mixing of concrete. https://unique-mixer.com/news/How_much_diesel_does_a_self_loading_concrete_mixer_consume_per_hour.html

MANUFACTURING PROCESS DIAGRAM (A1-A3)



ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

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	2,12E+02	2,41E+01	4,01E+00	2,40E+02	2,15E+00	1,54E+01	ND	ND	ND	ND	ND	ND	ND	4,48E+00	1,27E+01	7,20E+00	4,41E+00	-1,32E+01
GWP – fossil	kg CO_2e	2,12E+02	2,40E+01	4,01E+00	2,40E+02	2,15E+00	1,54E+01	ND	ND	ND	ND	ND	ND	ND	4,47E+00	1,27E+01	7,20E+00	4,40E+00	-1,32E+01
GWP – biogenic	kg CO_2e	-2,75E-02	8,99E-03	4,66E-04	-1,81E-02	4,87E-04	2,47E-04	ND	ND	ND	ND	ND	ND	ND	4,57E-04	2,87E-03	-7,35E-04	-1,40E-03	-4,14E-02
GWP – LULUC	kg CO_2e	1,30E-02	1,53E-02	3,48E-04	2,86E-02	9,63E-04	1,91E-03	ND	ND	ND	ND	ND	ND	ND	4,58E-04	5,66E-03	7,38E-04	2,52E-03	-1,83E-02
Ozone depletion pot.	kg CFC_{-11}e	2,63E-06	3,30E-07	6,33E-08	3,03E-06	3,18E-08	2,17E-07	ND	ND	ND	ND	ND	ND	ND	6,85E-08	1,87E-07	1,10E-07	1,28E-07	-1,11E-06
Acidification potential	mol H^+e	7,86E-01	1,24E-01	3,11E-02	9,41E-01	7,34E-03	9,92E-02	ND	ND	ND	ND	ND	ND	ND	4,04E-02	4,32E-02	6,50E-02	3,12E-02	-8,63E-02
EP-freshwater[2)]	kg Pe	3,57E-02	2,67E-03	3,39E-04	3,87E-02	1,68E-04	1,43E-03	ND	ND	ND	ND	ND	ND	ND	1,29E-04	9,85E-04	2,08E-04	3,62E-04	-7,81E-04
EP-marine	kg Ne	4,44E-02	4,54E-02	1,16E-02	1,01E-01	2,41E-03	3,57E-02	ND	ND	ND	ND	ND	ND	ND	1,87E-02	1,42E-02	3,02E-02	1,19E-02	-1,87E-02
EP-terrestrial	mol Ne	1,88E+00	4,94E-01	1,27E-01	2,51E+00	2,62E-02	4,32E-01	ND	ND	ND	ND	ND	ND	ND	2,05E-01	1,54E-01	3,30E-01	1,30E-01	-2,44E-01
POCP ("smog")[3)]	kg NMVOCe	4,50E-01	1,67E-01	3,78E-02	6,55E-01	1,08E-02	1,27E-01	ND	ND	ND	ND	ND	ND	ND	6,12E-02	6,36E-02	9,85E-02	4,66E-02	-6,26E-02
ADP-minerals & metals[4)]	kg Sbe	1,78E-05	6,53E-05	1,32E-06	8,44E-05	6,00E-06	6,70E-06	ND	ND	ND	ND	ND	ND	ND	1,60E-06	3,53E-05	2,58E-06	7,00E-06	-1,33E-04
ADP-fossil resources	MJ	3,59E+02	3,34E+02	5,09E+01	7,43E+02	3,12E+01	1,31E+02	ND	ND	ND	ND	ND	ND	ND	5,85E+01	1,84E+02	9,42E+01	1,08E+02	-1,96E+02
Water use[5)]	m^3e depr.	4,56E+01	2,26E+00	1,20E+01	5,99E+01	1,54E-01	2,08E+00	ND	ND	ND	ND	ND	ND	ND	1,46E-01	9,07E-01	2,35E-01	3,12E-01	-2,61E+01

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, EF 3.1

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	6,50E-06	2,67E-06	7,80E-07	9,95E-06	2,15E-07	2,68E-06	ND	ND	ND	ND	ND	ND	ND	1,15E-06	1,27E-06	1,41E-05	7,11E-07	-1,11E-06
Ionizing radiation[6)]	kBq U235e	6,84E+02	5,08E-01	3,50E-02	6,85E+02	2,72E-02	2,06E+01	ND	ND	ND	ND	ND	ND	ND	2,59E-02	1,60E-01	4,17E-02	6,80E-02	-3,12E+00
Ecotoxicity (freshwater)	CTUe	3,55E+02	5,43E+01	4,81E+00	4,14E+02	4,42E+00	1,91E+01	ND	ND	ND	ND	ND	ND	ND	3,22E+00	2,60E+01	5,19E+00	9,07E+00	-2,35E+02
Human toxicity, cancer	CTUh	3,38E-07	4,61E-09	3,50E-10	3,43E-07	3,55E-10	1,12E-08	ND	ND	ND	ND	ND	ND	ND	4,60E-10	2,09E-09	7,41E-10	8,12E-10	-1,37E-08
Human tox. non-cancer	CTUh	1,05E-05	2,02E-07	1,20E-08	1,08E-05	2,02E-08	3,40E-07	ND	ND	ND	ND	ND	ND	ND	7,29E-09	1,19E-07	1,17E-08	1,87E-08	-2,51E-07
SQP[7)]	-	6,62E+02	2,98E+02	6,48E+00	9,66E+02	3,14E+01	4,88E+01	ND	ND	ND	ND	ND	ND	ND	4,10E+00	1,85E+02	6,60E+00	2,13E+02	-1,89E+02

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

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	1,18E+01	8,21E+00	3,74E-01	2,04E+01	4,28E-01	1,36E+00	ND	ND	ND	ND	ND	ND	ND	3,71E-01	2,52E+00	5,97E-01	1,04E+00	-1,94E+01
Renew. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,18E+01	8,21E+00	3,74E-01	2,04E+01	4,28E-01	1,36E+00	ND	ND	ND	ND	ND	ND	ND	3,71E-01	2,52E+00	5,97E-01	1,04E+00	-1,94E+01
Non-re. PER as energy	MJ	3,47E+02	3,34E+02	5,11E+01	7,32E+02	3,12E+01	1,31E+02	ND	ND	ND	ND	ND	ND	ND	5,85E+01	1,84E+02	9,42E+01	1,08E+02	-2,02E+02
Non-re. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	3,47E+02	3,34E+02	5,11E+01	7,32E+02	3,12E+01	1,31E+02	ND	ND	ND	ND	ND	ND	ND	5,85E+01	1,84E+02	9,42E+01	1,08E+02	-2,02E+02
Secondary materials	kg	3,52E-02	0,00E+00	0,00E+00	3,52E-02	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Renew. secondary fuels	MJ	1,15E-06	1,77E-03	5,00E-05	1,82E-03	1,69E-04	2,14E-04	ND	ND	ND	ND	ND	ND	ND	6,36E-05	9,93E-04	1,02E-04	5,63E-04	-1,57E-03
Non-ren. secondary fuels	MJ	8,07E+01	0,00E+00	0,00E+00	8,07E+01	0,00E+00	2,42E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	5,51E-01	6,17E-02	2,28E-02	6,35E-01	4,62E-03	3,00E-02	ND	ND	ND	ND	ND	ND	ND	3,87E-03	2,72E-02	6,23E-03	1,12E-01	-6,07E-01

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	2,29E+00	8,77E-01	4,02E-02	3,21E+00	5,29E-02	2,21E-01	ND	ND	ND	ND	ND	ND	ND	6,52E-02	3,11E-01	1,05E-01	1,19E-01	-1,53E+00
Non-hazardous waste	kg	4,41E+01	1,55E+01	6,55E-01	6,03E+01	9,79E-01	3,60E+00	ND	ND	ND	ND	ND	ND	ND	8,88E-01	5,76E+00	1,43E+00	2,73E+00	-2,83E+01
Radioactive waste	kg	5,57E-04	1,24E-04	6,69E-06	6,87E-04	6,66E-06	3,33E-05	ND	ND	ND	ND	ND	ND	ND	6,36E-06	3,92E-05	1,02E-05	1,66E-05	-3,90E-04

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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,56E+01	1,56E+01	0,00E+00	4,99E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,65E+03	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	ND	ND	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy: Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy: Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

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	2,12E+02	2,39E+01	3,98E+00	2,40E+02	2,14E+00	1,53E+01	ND	ND	ND	ND	ND	ND	ND	4,45E+00	1,26E+01	7,17E+00	4,36E+00	-1,63E+01
Ozone depletion Pot.	kg $CFC_{-11}e$	1,08E-06	2,64E-07	5,23E-08	1,39E-06	2,53E-08	1,42E-07	ND	ND	ND	ND	ND	ND	ND	5,43E-08	1,49E-07	8,74E-08	1,01E-07	-1,13E-07
Acidification	kg SO_2e	7,63E-02	9,30E-02	2,32E-02	1,92E-01	5,60E-03	5,58E-02	ND	ND	ND	ND	ND	ND	ND	2,84E-02	3,30E-02	4,57E-02	2,31E-02	-7,84E-02
Eutrophication	kg PO_4^3e	4,34E-02	2,10E-02	4,94E-03	6,93E-02	1,37E-03	1,38E-02	ND	ND	ND	ND	ND	ND	ND	6,63E-03	8,03E-03	1,07E-02	7,35E-03	-1,54E-02
POCP (“smog”)	kg C_2H_4e	6,78E-03	7,53E-03	1,50E-03	1,58E-02	4,99E-04	4,25E-03	ND	ND	ND	ND	ND	ND	ND	2,13E-03	2,94E-03	3,43E-03	2,19E-03	-6,98E-03
ADP-elements	kg Sbe	1,78E-05	6,37E-05	1,28E-06	8,27E-05	5,85E-06	6,54E-06	ND	ND	ND	ND	ND	ND	ND	1,56E-06	3,44E-05	2,51E-06	6,86E-06	-8,95E-05
ADP-fossil	MJ	3,57E+02	3,26E+02	5,07E+01	7,33E+02	3,08E+01	1,30E+02	ND	ND	ND	ND	ND	ND	ND	5,81E+01	1,81E+02	9,36E+01	1,07E+02	-2,02E+02

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG [9)]	kg CO_2e	2,12E+02	2,41E+01	4,01E+00	2,40E+02	2,15E+00	1,54E+01	ND	ND	ND	ND	ND	ND	ND	4,48E+00	1,27E+01	7,20E+00	4,41E+00	-1,32E+01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows - CH4 fossil, CH4 biogenic and Dinitrogen monoxide - were updated. 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 DATA SOURCES

Manufacturing energy scenario documentation – A3 (Energy data source)

1. Construction, specialized activities, demolition and site preparation, Diesel, burned in building machine, World, ecoinvent 3.10.1, 0.10 kgCO2e/MJ
2. Electricity, Electricity, consumption mix w/o renewables, Queensland, 2024, Australia, LCA study for country specific consumption mixes, OneClickLCA 2025, 1.08 kgCO2e/kWh

Installation scenario documentation - A5 (Diesel consumption)

1. Diesel, burned in building machine, World, ecoinvent 3.10.1, 0.1 kg CO2e/MJ

TRANSPORT SCENARIO DOCUMENTATION - A4

Scenario parameter	Value
Vehicle type used for transport (e.g., long distance truck, boat, etc.) / Vehicle type, Commission Directive 2007/37/EC (European Emission Standard)	Concrete mixer truck
Distance, km	8,5
Capacity utilization (including empty return) %	50 %
Bulk density of transported products / kg/m³	2,35E+03
Volume capacity utilization factor (factor: =1 or <1 or ≥1 for compressed or nested packaged products)	1

INSTALLATION SCENARIO DOCUMENTATION - A5

Scenario parameter	Value
Ancillary materials for installation (specified by material) / kg or other units as appropriate	0
Water use / m³	0
Other resource use / kg	0
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	7,06E+01
Output materials as result of waste processing at the building site e.g. collection for recycling / kg	4,94E+01
Output materials as result of waste processing at the building site e.g. collection for disposal / kg	2,12E+01
Direct emissions to ambient air, soil and water / kg	0

END OF LIFE SCENARIO DOCUMENTATION

Scenario information	Value
Collection process – kg collected separately	0
Collection process – kg collected with mixed construction waste	2352
Recovery process – kg for re-use	0
Recovery process – kg for recycling	1,65E+03
Recovery process – kg for energy recovery	0
Disposal (total) – kg for final deposition	7,06E+02
Scenario assumptions e.g. transportation	Market for transport, freight, lorry >32 metric ton, EURO5; 50km

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

Program assistant: Xinyuan Zhang

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools
Tool verifier: Imane Uald Lamkaddam
Tool verification validity: 28 March 2025 - 27 March 2028