



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH ISO 21930 & ISO 14025

30 MPA With Air 20 FA

Wheat City Concrete Products Ltd.



EPD HUB, HUB-6620

Published on 11.06.2026, last updated on 11.06.2026, valid until 10.06.2031

Life Cycle Assessment study has been performed in accordance with the requirements of ISO 21930, NSF PCR for Concrete v2.3 and JRC characterization factors EF 3.1.



Created with One Click LCA



GENERAL INFORMATION

MANUFACTURER

Manufacturer	Wheat City Concrete Products Ltd.
Address	4801 Victoria Avenue Brandon Manitoba Canada
Contact details	wccpsp@mymts.net
Website	N/A

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	ISO 21930:2017 and ISO 14025
PCR	NSF PCR for Concrete v2.3
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	N/A
Scope of the EPD	Cradle to gate
EPD author	Scott Pengelly, Wheat City Concrete
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	D.V as an authorized verifier for EPD Hub

Wheat City Concrete is a redi-mix concrete supplier located in Brandon Manitoba Canada. We have been in business for over 60 years and do the majority of major commercial concrete in southwest Manitoba.

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	30 MPA With Air 20 FA
Additional labels	N/A
Product reference	P45L5-8F1
Place(s) of raw material origin	Canada, U.S.A
Place of production	Canada, U.S.A
Place(s) of installation and use	Canada
Period for data	01-01-2025 to 12-31- 2025
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	N/A
GTIN (Global Trade Item Number)	N/A
A1-A3 Specific data (%)	49.1

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 Cu m3 of 30 MPA With Air 20 FA
Declared unit mass	2361 kg
Mass of packaging	0 kg
GWP -total, A1-A3	2.27E+02
Secondary material, inputs (%)	1.25
Total energy use, A1-A3 (kWh)	474
Net freshwater use, A1-A3 (m ³)	2.11

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Wheat City Concrete is a redi-mix concrete supplier located in Brandon Manitoba Canada. We have been in business for over 60 years and do the majority of major commercial concrete in southwest Manitoba.

PRODUCT DESCRIPTION

This is a redi mix concrete P45L5-8F1 that is designed to achieve 30 MPA in 28 days it has air entrainment. This mix was designed to conform to CSA A23.1 and is used in various applications on a jobsite. It is made of cement, fly ash, coarse aggregate, fine aggregate and water.

PRODUCT RAW MATERIAL MAIN COMPOSITION

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

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	N/A
Biogenic carbon content in packaging, kg C	N/A

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 Cu m3 of 30 MPA With Air 20 FA
Mass per declared unit	2361 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

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

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

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

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

Not declared = ND.

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.

A market-based approach is used in modelling the electricity mix utilized in the factory.

Our material is sourced locally crushed and washed in house and transported to the concrete plant where it is loaded in the concrete drums that are attached to the trucks, which we call mixers as it mixes the aggregate, cement and water into redi mix concrete. It is then transported in those trucks to site where the customer takes ownership of the product and places it where it needs to go. There is no real packaging as it is just blended in those drums, transported in the drums and then dumped out and the drums are then reloaded with more product for more customers. The drums last on average about 10 years and haul 38,000.00 m³ or nearly 70 million kg of redi mix concrete before it needs replaced. Emerging LCA impact categories and inventory items are still under development and can have high levels of uncertainty that preclude international acceptance pending further development. Use caution when interpreting data in these categories.”

- renewable primary energy resources as energy (fuel), (RPRE);
- renewable primary resources as material, (RPRM);
- nonrenewable primary resources as energy (fuel), (NRPRE);
- nonrenewable primary resources as material (NRPRM);
- secondary materials (SM);
- renewable secondary fuels (RSF);
- nonrenewable secondary fuels (NRSF);
- recovered energy (RE);
- abiotic depletion potential for nonfossil mineral resources (ADP elements);
- land use related impacts, for example on biodiversity and/or soil fertility;
- toxicological aspects;
- emissions from land use change [GWP 100 (land-use change)];
- hazardous waste disposed;
- nonhazardous waste disposed;
- high-level radioactive waste;

- intermediate and low-level radioactive waste;
- components for reuse;
- materials for recycling;
- materials for energy recovery;
- recovered energy exported from the product system.

The product category rules for this EPD recognize fly ash, silica fume, and slag as recovered materials and thus the environmental impacts allocated to these materials are limited to the treatment and transportation required to use as a concrete material input.

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

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

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.

Masterbuilders AE90 - Air Entrainment - 4 oz per cubic meter

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 ISO 21930 and JRC EF 3.1.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

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

Data type	Allocation
Raw materials	No allocation
Packaging material	Not applicable
Ancillary materials	Physical Properties
Manufacturing energy and waste	Physical Properties

PRODUCT & MANUFACTURING SITES GROUPING

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

This EPD is product and factory specific.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.5. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

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.

ENVIRONMENTAL IMPACTS – TRACI 2.1. / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	2.10E+02	1.58E+01	7.61E-01	2.27E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ozone Depletion	kg CFC-11e	4.84E-06	2.99E-07	2.34E-08	5.16E-06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acidification	kg SO ₂ e	3.16E-01	4.96E-02	4.77E-03	3.70E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Eutrophication	kg Ne	1.49E-01	8.87E-03	8.20E-04	1.59E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
POCP ("smog")	kg O ₃ e	4.30E+00	1.26E+00	1.39E-01	5.70E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ADP-fossil	MJ	1.05E+03	1.25E-08	2.36E-02	1.05E+03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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	1.43E+02	3.40E+00	1.80E-01	1.46E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Renew. PER as material	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total use of renew. PER	MJ	1.43E+02	3.40E+00	1.80E-01	1.46E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Non-re. PER as energy	MJ	1.20E+03	2.29E+02	1.86E+01	1.45E+03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Non-re. PER as material	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total use of non-re. PER	MJ	1.20E+03	2.29E+02	1.86E+01	1.45E+03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Secondary materials	kg	2.95E+01	9.66E-02	4.76E-03	2.96E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Renew. secondary fuels	MJ	2.81E+01	1.27E-03	9.71E-05	2.81E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Non-ren. secondary fuels	MJ	8.70E+01	0.00E+00	0.00E+00	8.70E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Use of net fresh water	m ³	2.06E+00	3.62E-02	2.06E-02	2.11E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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	2.19E+00	1.47E+00	6.23E-02	3.72E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Non-hazardous waste	kg	2.43E+01	2.91E+01	1.19E+02	1.72E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Radioactive waste	kg	1.39E-04	4.65E-05	2.58E-06	1.89E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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	4.69E-02	0.00E+00	1.73E+00	1.78E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Materials for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Materials for energy rec	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Exported energy – Electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Exported energy – Heat	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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 ₂ e	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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 characterisation factor for biogenic CO₂ is set to zero

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Diesel, burned in building machine, World, Ecoinvent, 0.10 kgCO₂e/MJ
2. Electricity - ALL - Manitoba Hydro, Canada, LCA Commons, 0.0041 kgCO₂e/MJ

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 is 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 ISO 21930 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.

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, ISO 21930, NSF PCR for Concrete v2.3 and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez

Tool verification validity: 27 March 2025 - 26 March 2028

D.V as an authorized verifier for EPD Hub Limited 11.06.2026

