Environmental Product Declaration

CALPORTLAND®

CalPortland Company

Redding Plant

- Type II/V
- Type II/V Premium Grind

NRMCA Certified Environmental Product Declaration

This environmental product declaration was conducted in accordance with ISO 14025:2006

☐ Internal Verification ☒ External Verification

Declared Product:	This is a business-to-business Type III environmental product declaration for cements manufactured by CalPortland in Redding, California.
Declaration Owner:	**CalPortland Company** 1490 Rubidoux Blvd Jurupa Valley, CA 92509 www.calportland.com
Program Operator:	**National Ready Mix Concrete Association** 900 Spring St., Silver Spring, MD 20910 301-587-1400 www.nrmca.org/sustainability
LCA and EPD Developer:	**WAP Sustainability** 103 Powell Ct., Suite 200. Brentwood, TN 37027 https://wapsustainability.com/
Independent Verifier:	**Industrial Ecology Consultants** Thomas P. Gloria, PhD. 35 Bracebridge Road, Newton, Massachusetts, USA, 02459-1728 t.gloria@industrial-ecology.com
Product Category Rule:	NSF Product Category Rule for Preparing an Environmental Product Declaration for Portland, Blended Hydraulic, Masonry, Mortar, and Plastic (Stucco) Cements. V3.2, September 2021.
Date of Issue:	June 4, 2026
Period of Validity:	6 Months (until December 4, 2026) This EPD is interim and will be updated with the availability of the updated GCCA Tool to current PCR for cement products.
EPD Number	NRMCAEPD: 20351

CalPortland Company
Redding Plant
Cement

Description of Company

CalPortland Company is a leading provider of building materials and construction solutions across the Western United States and Canada. Since 1891, we've delivered reliable, innovative, and efficient answers to complex construction challenges through our expertise in cement production and distribution, ready mixed concrete, aggregates, asphalt, construction services, and other essential building materials. Our products support the infrastructure that sustains daily life—from buildings and transportation networks to utilities, hospitals, schools, railways, and airports. We are committed to building strong foundations using sustainable materials and renewable technologies. For more than 60 years, the Redding cement plant has positively impacted the local community through sustained employment, economic investment, and active community involvement.

CalPortland Company is an industry leader in energy conservation and environmental stewardship. Our commitment to improving environmental performance is demonstrated through measurable action, not just words. CalPortland's Redding Cement plant reduces emissions by utilizing alternative fuel sources such as whole tires, wood chips, and rice hulls to supplement its fossil fuel use. Guided by the principle that sustainable development meets present needs without compromising future generations, we advance sustainable materials and technologies to address tomorrow's challenges today.

Product Identification

This EPD reports environmental information for two hydraulic cements produced by CalPortland Company Inc. at their facility in Redding, California:

1. **Type II/V cement**, for use when [1] the special properties specified for any other type are not required, [2] for general use, more especially when moderate sulfate resistance is desired, or [3] for use when high sulfate resistance is desired;
2. **Type II/V premium grind**, a finely ground ASTM C150 Portland cement designed to provide moderate to high sulfate resistance with enhanced early strength development and improved performance characteristics.

Figure 1 below shows a visual representation of typical finished cement product.

Figure 1: Visual Representation of Typical Cement

About this EPD

This is a cradle-to-gate Environmental Product Declaration (EPD) for several cement products as produced by CalPortland at its Redding, California facility. The results of the underlying LCA were computed with the North American (N.A.) version of the Global Cement and Concrete Association (GCCA) Industry EPD Tool for cement and concrete[1]. This tool and the underlying LCA model and database[2] have been previously verified to conform to the prevailing sub-product category rule (PCR)[3], ISO 21930:2017 (the core PCR)[4], as well as ISO 14020:2000[5] and ISO 14040/44:2006 LCA standards[6],[7]

This EPD is certified by ASTM to conform to the sub-Product Category Rule (PCR) referenced above, as well as to the requirements of ISO 14025[8], ISO 21930, and ASTM International's General Program Instructions[8]. This EPD is intended for business-to-business audiences.

Declared Unit

The declared unit is the basic reference flow set by the NSF cement PCR: 2021 for the assessed products. The declared unit for this study is defined as one metric ton (1,000 kg).

Please note: only EPDs prepared from cradle-to-grave life-cycle results, and based on same function, reference service life, and quantified by the same functional unit, can be used to assist purchasers and users in making informed comparisons.

The reference service life of cement is dependent on its end-use and therefore not declared herein.

System Boundary

As per the ASTM PCR for cement, the system boundary is the product stage (i.e. "cradle-to-gate"), which includes the following modules:

- A1 Raw material supply;
- A2 Transport (to the manufacturer); and
- A3 Manufacturing.

Figure 2 shows the production stage system boundary for cement.

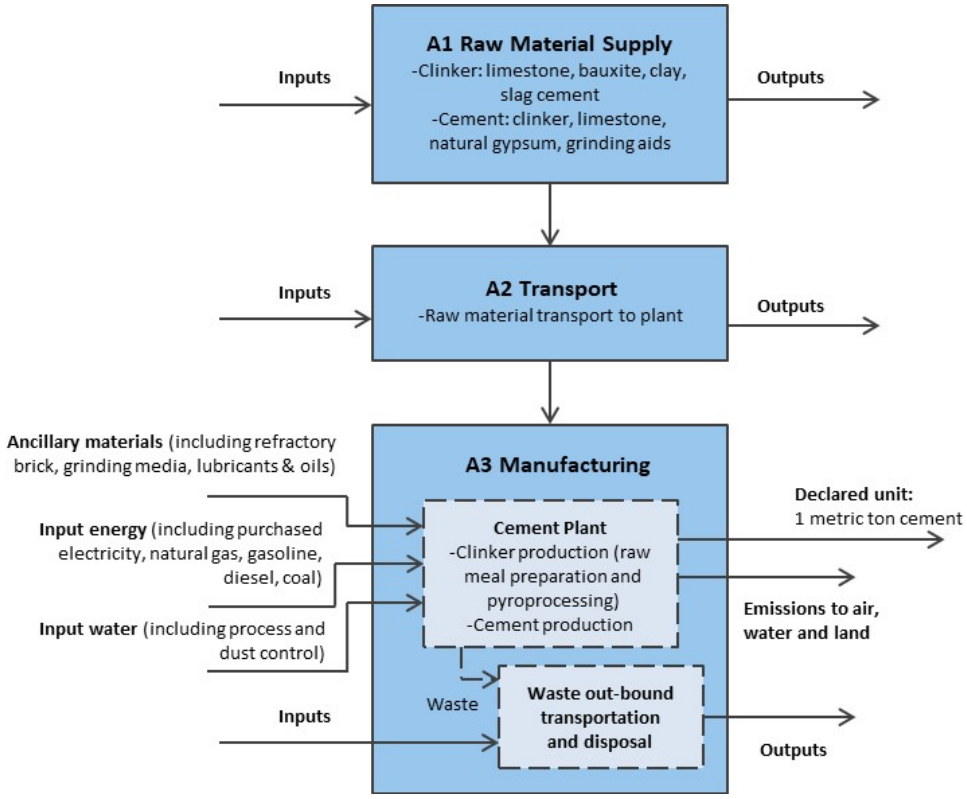

Figure 2: Cradle-to-gate System Boundary for Cement Production

Life Cycle Assessment

This section summarizes the results of the life cycle impact assessment (LCIA) based on the cradle-to-gate life cycle inventory inputs and outputs analysis. The results are calculated on the basis of one metric ton of cement and shown in Table 3. As per NSF PCR for cement, US EPA Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI, version 2.1) impact categories are used as they provide a North American context for the mandatory category indicators to be included in this EPD. These are relative expressions only and do not predict category impact end-points, the exceeding of thresholds, safety margins or risks. Total primary and sub-set energy consumption was compiled using a cumulative energy demand model. Material resource consumption and generated waste reflect cumulative life cycle inventory flow information.

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Table 3: LCA Results (A1-A3) – 1 metric ton Redding cements

Redding Cement	Unit	Type II/V	Type II/V Premium
Global warming potential (GWP)[1]	kg CO_2 eq	786.98	830.38
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC-11 eq	1.62E-05	1.69E-05
Eutrophication potential (EP)	kg N eq	0.62	0.66
Acidification potential of soil and water sources (AP)	kg SO_2 eq	0.75	0.79
Formation potential of tropospheric ozone (POCP)	kg O_3 eq	9.04	9.46
Resource Use			
Abiotic depletion potential for non-fossil mineral resources (ADPelements)*	kg Sb eq	0.00	0.00
Abiotic depletion potential for fossil resources (ADPfossil)	MJ, NCV	2833.90	2980.11
Renewable primary energy resources as energy (fuel), (RPRE)*	MJ, NCV	250.05	265.50
Renewable primary resources as material, (RPRM)*	MJ, NCV	0.00	0.00
Non-renewable primary resources as energy (fuel), (NRPRE)*	MJ, NCV	2833.90	2980.11
Non-renewable primary resources as material (NRPRM)*	MJ, NCV	0.00	0.00
Consumption of fresh water	m3	0.92	0.97
Secondary Material, Fuel and Recovered Energy			
Secondary Materials, (SM)*	kg	16.62	0.00
Renewable secondary fuels, (RSF)*	MJ, NCV	157.36	166.19
Non-renewable secondary fuels (NRSF)*	MJ, NCV	425.46	449.33
Recovered energy, (RE)*	MJ, NCV	0.00	0.00
Waste & Output Flows			
Hazardous waste disposed*	kg	0.00	0.00
Non-hazardous waste disposed*	kg	0.87	0.92
High-level radioactive waste*	kg	0.00	0.00
Intermediate and low-level radioactive waste*	kg	0.00	0.00
Components for reuse*	kg	0.00	0.00
Materials for recycling*	kg	0.00	0.00
Materials for energy recovery*	kg	0.00	0.00
Recovered energy exported from the product system*	MJ, NCV	0.00	0.00
Additional Inventory Parameters for Transparency			
Emissions from calcination and uptake from carbonation	kg CO_2 eq	486.45	513.73
Biogenic CO_2, reporting the emissions from combustion of waste from renewable sources used in production processes	kg CO_2 eq	15.31	16.17
Emissions from combustion of waste from non-renewable sources used in production processes	kg CO_2 eq	52.48	55.42

References

1. Global Cement and Concrete Association (GCCA) and Portland Cement Association (PCA), GCCA Industry EPD Tool for Cement and Concrete (V4.2), User's Manual, North American version, prepared by Quantis, December 2023.
2. Global Cement and Concrete Association (GCCA) 2023. LCA Database, North American version, prepared by Quantis, 2023.
3. NSF International, Product Category Rule Environmental Product Declarations, PCR for Portland, Blended, Masonry, Mortar, and Plastic (Stucco) Cements, V3.2, September 2021.
4. ISO 21930:2017 Sustainability in buildings and civil engineering works- Core rules for environmental product declarations of construction products and services.
5. ISO 14020:2000 Environmental labels and declarations- General principles.
6. ISO 14040:2006/Amd1:2020 Environmental Management- Life Cycle Assessment- Principles and Framework.
7. ISO 14044:2006/Amd1:2017/Amd2:2020 Environmental Management- Life Cycle Assessment- Requirements and Guidelines.
8. ASTM General Program Instructions. V.8.0, April 29, 2020.
9. ISO 14025:2006 Environmental labeling and declarations- Type III environmental declarations- Principles and procedures.