

## BASALITE CONCRETE PRODUCTS

ENVIRONMENTAL PRODUCT DECLARATION

Mix 600-MW • Denver Plant



This Environmental Product Declaration (EPD) reports the impacts for 1 m<sup>3</sup> of concrete formed into manufactured concrete and masonry products meeting the following specifications:

- ASTM C90 Load Bearing Concrete Masonry Units

### PRODUCT DESCRIPTION

#### Mix 600 - Medium Weight:

A structural medium weight Basalite CMU with locally sourced aggregates. Sizes, shapes and colors are available for architectural, structural, veneer and site walls. Minimum compressive strength 2000 PSI. This product incorporates recycled fly ash.



### OPERATOR

EarthSure

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### DATE OF ISSUE

09/15/2016 (valid for 5 years until 09/15/2021)

### ENVIRONMENTAL IMPACTS

#### Declared Product:

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**Declared Unit:** 1 m<sup>3</sup> of concrete formed into manufactured concrete masonry product (CMU).

Global Warming Potential (kg CO <sub>2</sub> -eq)	447
Acidification Potential (kg SO <sub>2</sub> -eq)	2.83
Eutrophication Potential (kg N-eq)	0.40
Smog Creation Potential (kg O <sub>3</sub> -eq)	28.0
Ozone Depletion Potential (kg CFC-11-eq)	3.4E-5
<b>Total Primary Energy Consumption</b>	
Non-Renewable Fossil (MJ)	4,533
Non-Renewable Nuclear (MJ)	382
Renewable (Biomass) (MJ)	185
Renewable (Wind, Solar, Geothermal) (MJ)	15.2
<b>Material Resource Consumption</b>	
Non-Renewable Material Resources (kg)	1,650
Renewable Material Resources (kg)	10.3
Net Fresh Water (l)	4,370
Non-Hazardous Waste Generated (kg)	157
Hazardous waste generated (kg)	2.99
Reclaimed Concrete Masonry Products (kg)	0.0E+0

**Material Composition:** lightweight aggregate, natural aggregate, portland cement, fly ash, batch water, admixture.

The ASTM International PCR005: Product Category rules for Preparing an Environmental Product Declaration for Manufactured concrete and Concrete Masonry Products issued December 2014 serves as the PCR for this EPD. <http://www.astm.org>

PCR review was chaired by: thinkstep – Formally PE International • [info@thinkstep.com](mailto:info@thinkstep.com).

The PCR peer review report is available upon request: [cert@astm.org](mailto:cert@astm.org)

Independent verification of the declaration, according to ISO 14025:2006:  internal  external

Third party verifier: Rita Schenck ([rita@iere.org](mailto:rita@iere.org)) • Institute for Environmental Research and Education (<http://iere.org>)

LCA and EPD developer: Laurel McEwen ([laurel.mcewen@climateearth.com](mailto:laurel.mcewen@climateearth.com)) • Climate Earth (<http://www.climateearth.com>)

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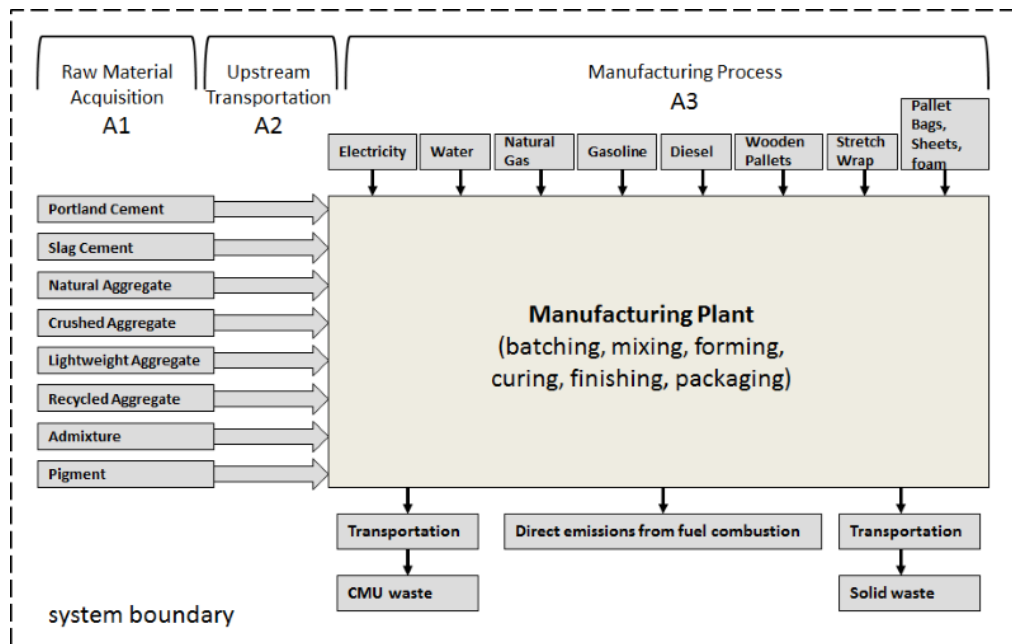


## STUDY

The impact results are based on a cradle-to-gate life cycle assessment (LCA) study covering the following phases of the life cycle:

- A1 - raw material acquisition;
- A2 - upstream transportation; and
- A3 - manufacturing processes.

A flow diagram illustrating the main unit processes by life cycle stage is provided below.



The following cradle-to-gate life cycle stages are excluded from the primary product stages:

1. Production, manufacture, and construction of manufacturing capital goods and infrastructure.
2. Production and manufacture of production equipment, delivery vehicles, and laboratory equipment.
3. Personnel-related activities (travel, furniture, office supplies).
4. Energy and water use related to company management and sales activities that may be located either within the factory site or at another location.

For more information contact: Conrad James, Director, Manufacturing Services [conrad.james@basalite.com](mailto:conrad.james@basalite.com)

This EPD covers only the cradle-to-gate impacts of manufactured concrete masonry products using a declared unit. EPD's using the same PCR, calculation engine and covering the same life cycle phases can be used to assist users in making informed comparisons between products. During the use phase, concrete carbonates and absorbs CO<sub>2</sub>. End of life treatment (dispose, recycle, reuse) can have a significant effect on the life cycle impacts of concrete masonry products.

This EPD is intended for Business-to-Business communication.

