Environmental Product Declaration

Angelus Block Concrete Masonry Units

Angelus
BLOCK CO., INC.
Since 1946

Angelus Block Environmental Product Declaration
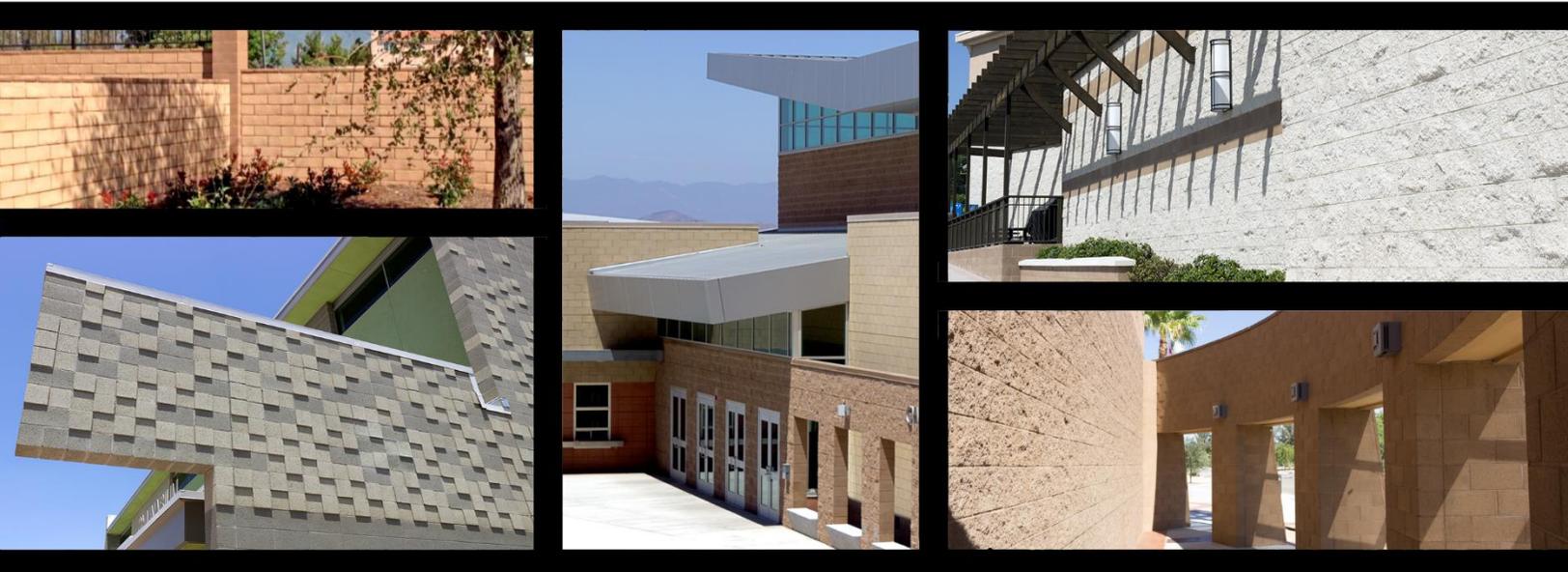
General Information

Environmental Product Declaration

This document is a product-specific Type III environmental product declaration (EPD) for 69 concrete masonry unit (CMU) products manufactured by Angelus Block Co., Inc. This declaration has been prepared in accordance with ISO 14025, ISO 21930, and ASTM International's EPD program operator rules.

> **PCR review was conducted by**:
> Nicholas Santero, PE International (Chairperson)
> *The PCR peer review report is available upon request:* cert@astm.org
>
> **Independent verification of the declaration and data, according to ISO 14025**: ☐ internal ☒ external
>
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> 35 Bracebridge Rd. ▪ Newton, MA 02459-1728
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Product Category Rule:

ASTM International PCR005: Product Category Rules for Preparing an Environmental Product Declaration for Manufactured Concrete and Concrete Masonry Products, issued December 2014

Declared Unit:

1 m^3 of concrete formed into manufactured concrete and concrete masonry products

Program Operator:

ASTM International

http://www.astm.org/EPDs.htm

EPD Owner:

Angelus Block Co., Inc.

11374 Tuxford St. ▪ Sun Valley, CA 91352

(818) 767-8576 ▪ http://www.angelusblock.com

LCA and EPD Developer:

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Climate Earth, Inc.

2150 Allston Way, Suite 320 ▪ Berkeley, CA 94704

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Date of Issue:

v1 issued: March 16, 2015 (valid for 5 years until March 16, 2020)

v2 issued: August 18, 2017 (valid until March 16, 2020)

v2 extended: February 17, 2020 (valid until October 31, 2020)

v2 extended: October 21, 2020 (valid until April 1, 2021)

v2 extended: March 8, 2021 (valid until July 1, 2021)

ASTM Declaration Number: EPD-010

Company

Founded in 1946, Angelus Block is California's leading producer of concrete masonry units, interlocking concrete pavers, permeable pavers, decorative site wall units, and segmental planter wall units.

The products covered in this EPD are manufactured at 7 Angelus Block plants (plant abbreviations in parentheses are used throughout this EPD):

Tuxford Plant (TX)
11374 Tuxford St.
Sun Valley, CA 91352
(818) 767-8576

Gardena Plant (RB)
252 E Redondo Beach
Blvd. Gardena, CA 90248
(310) 323-8841

Sheldon Plant (SH)
11740 Sheldon St.
Sun Valley, CA 91352
(818) 768-0315

Oxnard Plant (VT)
4575 E Vineyard Ave.
Oxnard, CA 93036
(805) 485-1137

Orange Plant (OC)
1705 N Main St.
Orange, CA 92865
(714) 637-8594

Indio Plant (CV)
88-100 Fargo Canyon Rd.
Indio, CA 92202
(760) 347-3245

Fontana Plant (FO)
14515 Whittram Ave.
Fontana, CA 92335
(909) 350-0244

Products

The declared unit of this EPD is 1 m^3 of concrete formed into concrete masonry units (CMUs). These products are compliant to the following standards and specifications:

- **ASTM C90**: Loadbearing Concrete Masonry Units
- **CSI Specification Section 04 22 00**: Concrete Masonry Units
- **UNSPSC 30131502**: Concrete blocks

Each of the 69 products in this EPD is defined as one of 13 mixes manufactured at one of 7 plants, as described in Table 1 on the following page. The plant and mix abbreviations are used throughout this document to refer to individual products; for example, "NW1-TX" refers to the Normal weight 2000 net psi CMU produced at the Tuxford plant.

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General Information

Table 1: The 69 Angelus block products covered in this EPD.

images	mix type	mix		plant						
				TX	SH	OC	FO	RB	VT	CV
	Slumpstone: A slightly rounded, random distortion with the look of rustic adobe. Configurations for structural and veneer applications.	Slumpstone 2000 net psi	SS0		12	13	25	33	45	57
	Normalweight: A basic CMU with normalweight aggregates. Typically used in site wall or low-rise applications.	Normalweight 2000 net psi	NW1	1		14	26	34	46	58
		Normalweight 2800 net psi	NW2	2		15	27	35	47	59
		Normalweight 3750 net psi	NW3	3		16	28	36	48	60
	Mediumweight: A CMU typically used in architectural masonry, with both normalweight and lightweight aggregates (and optionally pumice for aesthetic effect). Configurations for structural and veneer applications.	Mediumweight 2000 net psi	MW1	4		17	29	37	49	61
		Mediumweight 2800 net psi	MW2	5		18	30	38	50	62
		Mediumweight 3750 net psi	MW3	6		19	31	39	51	63
		Mediumweight 2000 net psi (w/ pumice)	MW4	7		20	32	40	52	64
	Lightweight: A CMU typically used in structural masonry, with lightweight aggregates (and optionally pumice for aesthetic effect). Configurations for structural and veneer applications.	Lightweight 2000 net psi	LW1	8		21		41	53	65
		Lightweight 2800 net psi	LW2	9		22		42	54	66
		Lightweight 3750 net psi	LW3	10		23		43	55	67
		Lightweight 2000 net psi (w/ pumice)	LW4	11		24		44	56	68
	White: A CMU for decorative architectural masonry with light-colored normalweight aggregates. Configurations for structural and veneer applications.	White MW 2000 net psi	WM0							69
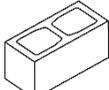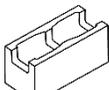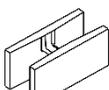
Study

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

- raw material acquisition;
- upstream transportation; and
- manufacturing processes.

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

This EPD covers only the cradle-to-gate impacts of manufactured concrete and concrete masonry products using a declared unit, and the results cannot be used to compare between products. Only EPDs prepared from cradle-to-grave life cycle results and based on the same function and reference service life (RSL), quantified by the same functional unit, and meeting all the conditions in ISO 14025, Section 6.7.2 can be used to assist purchasers and users in making informed comparisons between products. EPDs from different programs (using different PCR) may not be comparable.
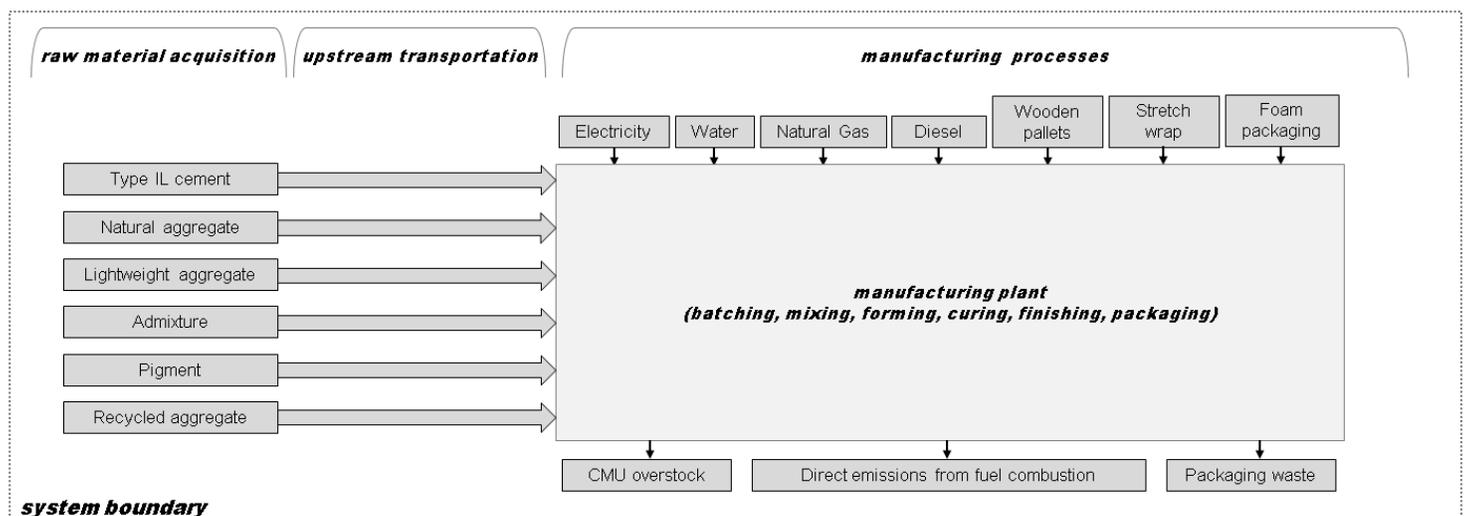
Angelus Block Environmental Product Declaration
Declared Impacts

The product-specific impact results in Table 3 are declared per m³ of concrete formed into the 69 CMU products included in this EPD. Products are indicated using the plant and mix abbreviations from Table 1, and impacts are reported using the impact category abbreviations from Table 2.

Calculated impact results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.

Table 2: Impact category names, units, and abbreviations.

category indicator	units	abbr
Global warming potential	kg CO_2 equiv	GWP
Acidification potential	kg SO_2 equiv	AP
Eutrophication potential	kg N equiv	EP
Photochemical ozone creation potential	kg O_3 equiv	POCP
Ozone depletion potential	kg CFC-11 equiv	ODP
Primary fossil energy consumption	MJ (HHV)	fPE
Primary nuclear energy consumption	MJ (HHV)	nPE
Primary renewable energy consumption	MJ (HHV)	rPE
Primary biomass energy consumption	MJ (HHV)	bPE
Nonrenewable material resources	kg	nMR
Renewable material resources	kg	rMR
Net fresh water	L	nFW
Non-hazardous waste generated	kg	nWG
Hazardous waste generated	kg	hWG

Table 3: Declared impacts per m³ of concrete formed into CMUs.

product	GWP	AP	EP	POCP	ODP	fPE	nPE	rPE	bPE	nMR	rMR	nFW	nWG	hWG
TX-NW1	1.73E+02	5.31E-01	8.07E-02	9.10E+00	2.52E-06	1.36E+03	6.98E+01	2.52E+01	1.40E-01	1.66E+03	3.26E+00	1.04E+04	4.36E+00	1.51E-03
TX-NW2	1.95E+02	5.73E-01	8.25E-02	1.01E+01	2.56E-06	1.49E+03	7.29E+01	2.85E+01	1.63E-01	1.67E+03	3.26E+00	1.02E+04	4.41E+00	1.69E-03
TX-NW3	2.16E+02	6.14E-01	8.43E-02	1.10E+01	2.60E-06	1.62E+03	7.60E+01	3.18E+01	1.84E-01	1.69E+03	3.26E+00	1.01E+04	4.47E+00	1.86E-03
TX-MW1	1.73E+02	5.76E-01	8.17E-02	1.05E+01	2.67E-06	1.44E+03	6.18E+01	2.35E+01	1.40E-01	1.64E+03	3.24E+00	5.12E+03	4.11E+00	1.40E-03
TX-MW2	1.91E+02	6.11E-01	8.33E-02	1.13E+01	2.70E-06	1.55E+03	6.46E+01	2.64E+01	1.59E-01	1.66E+03	3.24E+00	5.06E+03	4.15E+00	1.55E-03
TX-MW3	2.12E+02	6.57E-01	8.61E-02	1.24E+01	2.79E-06	1.69E+03	6.79E+01	2.94E+01	1.80E-01	1.77E+03	3.25E+00	5.22E+03	4.23E+00	1.71E-03
TX-MW4	2.03E+02	6.16E-01	8.36E-02	1.13E+01	2.66E-06	1.59E+03	6.82E+01	2.87E+01	1.71E-01	1.66E+03	3.25E+00	6.09E+03	4.25E+00	1.68E-03
TX-LW1	1.98E+02	6.60E-01	8.61E-02	1.27E+01	2.89E-06	1.65E+03	6.23E+01	2.61E+01	1.65E-01	1.63E+03	3.24E+00	3.08E+03	4.09E+00	1.52E-03
TX-LW2	2.17E+02	6.95E-01	8.76E-02	1.35E+01	2.92E-06	1.77E+03	6.52E+01	2.91E+01	1.84E-01	1.64E+03	3.24E+00	3.05E+03	4.14E+00	1.68E-03
TX-LW3	2.39E+02	7.53E-01	8.98E-02	1.50E+01	3.04E-06	1.93E+03	6.76E+01	3.19E+01	2.07E-01	1.57E+03	3.24E+00	2.90E+03	4.14E+00	1.83E-03
TX-LW4	2.03E+02	6.49E-01	8.44E-02	1.23E+01	2.78E-06	1.65E+03	6.32E+01	2.75E+01	1.71E-01	1.48E+03	3.24E+00	2.73E+03	4.08E+00	1.59E-03
SH-SS0	2.24E+02	6.62E-01	1.33E-01	1.16E+01	4.10E-06	1.72E+03	1.07E+02	3.43E+01	1.81E-01	1.71E+03	3.37E+00	1.03E+04	5.31E+00	2.14E-03
OC-SS0	2.15E+02	6.78E-01	9.63E-02	1.32E+01	3.21E-06	1.72E+03	7.79E+01	2.96E+01	1.81E-01	1.55E+03	3.27E+00	9.54E+03	4.57E+00	1.78E-03
OC-NW1	1.72E+02	6.01E-01	9.27E-02	1.15E+01	3.16E-06	1.47E+03	7.16E+01	2.29E+01	1.37E-01	1.50E+03	3.27E+00	9.97E+03	4.45E+00	1.43E-03
OC-NW2	1.94E+02	6.40E-01	9.44E-02	1.23E+01	3.18E-06	1.60E+03	7.48E+01	2.63E+01	1.60E-01	1.51E+03	3.27E+00	9.80E+03	4.50E+00	1.61E-03
OC-NW3	2.15E+02	6.78E-01	9.60E-02	1.32E+01	3.21E-06	1.72E+03	7.79E+01	2.96E+01	1.81E-01	1.53E+03	3.27E+00	9.65E+03	4.56E+00	1.78E-03
OC-MW1	1.88E+02	6.60E-01	9.43E-02	1.31E+01	3.25E-06	1.62E+03	6.65E+01	2.43E+01	1.54E-01	1.50E+03	3.26E+00	4.37E+03	4.26E+00	1.47E-03
OC-MW2	2.07E+02	6.93E-01	9.57E-02	1.38E+01	3.27E-06	1.73E+03	6.93E+01	2.72E+01	1.73E-01	1.52E+03	3.26E+00	4.32E+03	4.31E+00	1.62E-03
OC-MW3	2.25E+02	7.24E-01	9.71E-02	1.45E+01	3.29E-06	1.83E+03	7.20E+01	3.00E+01	1.91E-01	1.53E+03	3.26E+00	4.26E+03	4.36E+00	1.77E-03
OC-MW4	2.05E+02	6.70E-01	9.50E-02	1.31E+01	3.19E-06	1.68E+03	7.16E+01	2.76E+01	1.71E-01	1.56E+03	3.26E+00	5.92E+03	4.40E+00	1.66E-03
OC-LW1	1.20E+02	4.75E-01	7.12E-02	8.88E+00	2.07E-06	1.13E+03	4.83E+01	1.57E+01	9.06E-02	7.42E+02	3.21E+00	1.46E+03	3.50E+00	9.03E-04
OC-LW2	1.30E+02	5.04E-01	8.11E-02	9.32E+00	2.80E-06	1.20E+03	5.48E+01	1.69E+01	9.79E-02	7.50E+02	3.24E+00	1.79E+03	3.86E+00	1.04E-03
OC-LW3	1.37E+02	5.04E-01	7.24E-02	9.52E+00	2.09E-06	1.23E+03	5.07E+01	1.83E+01	1.07E-01	7.52E+02	3.21E+00	1.44E+03	3.54E+00	1.03E-03
OC-LW4	1.21E+02	4.75E-01	7.93E-02	8.59E+00	2.71E-06	1.13E+03	5.36E+01	1.59E+01	8.89E-02	6.73E+02	3.24E+00	1.64E+03	3.83E+00	9.83E-04

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Declared Impacts

product	GWP	AP	EP	POCP	ODP	fPE	nPE	rPE	bPE	nMR	rMR	nFW	nWG	hWG
FO-SS0	2.18E+02	6.13E-01	6.69E-02	1.23E+01	2.04E-06	1.61E+03	6.04E+01	3.04E+01	1.94E-01	1.68E+03	3.21E+00	8.03E+03	4.21E+00	1.76E-03
FO-NW1	1.65E+02	5.24E-01	7.04E-02	1.02E+01	2.68E-06	1.31E+03	5.88E+01	2.20E+01	1.38E-01	1.56E+03	3.24E+00	1.04E+04	4.38E+00	1.39E-03
FO-NW2	1.89E+02	5.54E-01	6.27E-02	1.10E+01	1.97E-06	1.43E+03	5.72E+01	2.61E+01	1.65E-01	1.57E+03	3.21E+00	9.90E+03	4.09E+00	1.53E-03
FO-NW3	2.16E+02	6.15E-01	7.42E-02	1.22E+01	2.74E-06	1.60E+03	6.64E+01	3.01E+01	1.91E-01	1.59E+03	3.24E+00	1.00E+04	4.50E+00	1.82E-03
FO-MW1	1.63E+02	5.57E-01	7.19E-02	1.12E+01	2.79E-06	1.36E+03	5.14E+01	2.04E+01	1.36E-01	1.62E+03	3.22E+00	5.01E+03	4.19E+00	1.29E-03
FO-MW2	1.85E+02	5.96E-01	7.36E-02	1.20E+01	2.81E-06	1.49E+03	5.48E+01	2.40E+01	1.59E-01	1.64E+03	3.22E+00	4.93E+03	4.25E+00	1.47E-03
FO-MW3	2.25E+02	6.76E-01	7.76E-02	1.39E+01	2.91E-06	1.73E+03	6.04E+01	2.99E+01	1.99E-01	1.77E+03	3.22E+00	4.68E+03	4.35E+00	1.79E-03
FO-MW4	2.04E+02	6.15E-01	7.42E-02	1.24E+01	2.78E-06	1.57E+03	5.94E+01	2.74E+01	1.78E-01	1.65E+03	3.23E+00	6.14E+03	4.34E+00	1.66E-03
RB-SS0	2.01E+02	6.28E-01	8.08E-02	1.30E+01	2.45E-06	1.60E+03	6.45E+01	2.69E+01	1.74E-01	1.60E+03	3.24E+00	7.90E+03	4.24E+00	1.59E-03
RB-NW1	1.88E+02	6.01E-01	7.92E-02	1.24E+01	2.45E-06	1.52E+03	6.53E+01	2.51E+01	1.61E-01	1.65E+03	3.24E+00	1.10E+04	4.25E+00	1.50E-03
RB-NW2	2.13E+02	6.46E-01	8.11E-02	1.34E+01	2.48E-06	1.67E+03	6.88E+01	2.89E+01	1.86E-01	1.67E+03	3.24E+00	1.08E+04	4.31E+00	1.70E-03
RB-NW3	2.36E+02	6.88E-01	8.30E-02	1.43E+01	2.51E-06	1.80E+03	7.22E+01	3.25E+01	2.10E-01	1.69E+03	3.24E+00	1.06E+04	4.36E+00	1.89E-03
RB-MW1	1.86E+02	6.21E-01	7.82E-02	1.31E+01	2.50E-06	1.56E+03	5.96E+01	2.39E+01	1.60E-01	1.62E+03	3.23E+00	7.94E+03	4.02E+00	1.41E-03
RB-MW2	2.06E+02	6.56E-01	7.97E-02	1.39E+01	2.53E-06	1.67E+03	6.25E+01	2.69E+01	1.80E-01	1.63E+03	3.23E+00	7.83E+03	4.07E+00	1.57E-03
RB-MW3	2.33E+02	7.04E-01	8.20E-02	1.49E+01	2.57E-06	1.83E+03	6.72E+01	3.13E+01	2.08E-01	1.69E+03	3.23E+00	8.24E+03	4.16E+00	1.80E-03
RB-MW4	2.08E+02	6.40E-01	7.97E-02	1.33E+01	2.41E-06	1.65E+03	6.24E+01	2.79E+01	1.82E-01	1.65E+03	3.23E+00	5.99E+03	4.12E+00	1.62E-03
RB-LW1	2.11E+02	6.86E-01	8.22E-02	1.47E+01	2.58E-06	1.74E+03	5.85E+01	2.71E+01	1.85E-01	1.63E+03	3.22E+00	2.92E+03	4.02E+00	1.57E-03
RB-LW2	2.21E+02	7.03E-01	8.30E-02	1.50E+01	2.59E-06	1.79E+03	6.00E+01	2.86E+01	1.95E-01	1.64E+03	3.22E+00	2.90E+03	4.05E+00	1.65E-03
RB-LW3	2.30E+02	7.20E-01	8.37E-02	1.54E+01	2.61E-06	1.84E+03	6.14E+01	3.01E+01	2.04E-01	1.64E+03	3.22E+00	2.88E+03	4.07E+00	1.73E-03
RB-LW4	2.12E+02	6.65E-01	8.03E-02	1.40E+01	2.46E-06	1.70E+03	5.90E+01	2.79E+01	1.86E-01	1.50E+03	3.22E+00	2.60E+03	4.02E+00	1.61E-03
VT-SS0	2.38E+02	8.34E-01	1.27E-01	1.56E+01	4.42E-06	2.05E+03	9.51E+01	3.16E+01	1.89E-01	1.81E+03	3.33E+00	9.58E+03	4.93E+00	1.93E-03
VT-NW1	2.11E+02	7.80E-01	1.23E-01	1.44E+01	4.34E-06	1.88E+03	9.14E+01	2.76E+01	1.63E-01	1.65E+03	3.33E+00	1.07E+04	4.79E+00	1.71E-03
VT-NW2	2.35E+02	8.26E-01	1.25E-01	1.55E+01	4.39E-06	2.03E+03	9.48E+01	3.13E+01	1.88E-01	1.67E+03	3.33E+00	1.06E+04	4.85E+00	1.91E-03
VT-NW3	2.59E+02	8.71E-01	1.27E-01	1.65E+01	4.43E-06	2.17E+03	9.82E+01	3.49E+01	2.11E-01	1.68E+03	3.33E+00	1.04E+04	4.91E+00	2.10E-03
VT-MW1	2.12E+02	7.87E-01	1.21E-01	1.46E+01	4.24E-06	1.90E+03	8.31E+01	2.76E+01	1.65E-01	1.64E+03	3.31E+00	3.37E+03	4.55E+00	1.68E-03
VT-MW2	2.33E+02	8.26E-01	1.23E-01	1.55E+01	4.28E-06	2.02E+03	8.62E+01	3.07E+01	1.86E-01	1.66E+03	3.31E+00	3.33E+03	4.61E+00	1.84E-03
VT-MW3	2.41E+02	8.41E-01	1.24E-01	1.59E+01	4.30E-06	2.07E+03	8.74E+01	3.19E+01	1.94E-01	1.66E+03	3.31E+00	3.31E+03	4.63E+00	1.91E-03
VT-MW4	2.34E+02	8.28E-01	1.24E-01	1.56E+01	4.33E-06	2.03E+03	8.96E+01	3.10E+01	1.87E-01	1.67E+03	3.32E+00	6.42E+03	4.69E+00	1.87E-03
VT-LW1	3.77E+02	1.67E+00	3.75E-01	2.35E+01	6.88E-06	3.31E+03	1.24E+02	3.52E+01	2.18E-01	1.55E+03	7.19E+00	3.94E+03	7.28E+00	2.73E-03
VT-LW2	3.88E+02	1.68E+00	3.74E-01	2.39E+01	6.88E-06	3.37E+03	1.25E+02	3.69E+01	2.30E-01	1.56E+03	7.16E+00	3.91E+03	7.29E+00	2.82E-03
VT-LW3	4.07E+02	1.69E+00	3.65E-01	2.44E+01	6.78E-06	3.45E+03	1.28E+02	4.09E+01	2.54E-01	1.64E+03	6.98E+00	3.91E+03	7.27E+00	3.00E-03
VT-LW4	2.50E+02	8.71E-01	1.24E-01	1.67E+01	4.37E-06	2.15E+03	8.75E+01	3.29E+01	2.04E-01	1.46E+03	3.30E+00	2.93E+03	4.57E+00	1.95E-03
CV-SS0	2.16E+02	5.89E-01	1.00E-01	1.22E+01	2.01E-06	1.55E+03	8.80E+01	3.37E+01	1.86E-01	1.67E+03	3.29E+00	1.15E+04	4.55E+00	1.96E-03
CV-NW1	1.69E+02	5.01E-01	9.72E-02	1.02E+01	1.91E-06	1.27E+03	7.99E+01	2.64E+01	1.38E-01	1.64E+03	3.29E+00	1.01E+04	4.44E+00	1.58E-03
CV-NW2	2.01E+02	5.62E-01	9.99E-02	1.16E+01	1.97E-06	1.46E+03	8.44E+01	3.12E+01	1.70E-01	1.66E+03	3.29E+00	9.83E+03	4.51E+00	1.83E-03
CV-NW3	2.24E+02	6.08E-01	1.02E-01	1.26E+01	2.02E-06	1.61E+03	8.77E+01	3.48E+01	1.94E-01	1.67E+03	3.29E+00	9.65E+03	4.57E+00	2.02E-03
CV-MW1	1.79E+02	5.47E-01	9.78E-02	1.15E+01	1.97E-06	1.38E+03	7.38E+01	2.70E+01	1.49E-01	1.61E+03	3.27E+00	4.37E+03	4.22E+00	1.58E-03
CV-MW2	1.95E+02	5.77E-01	9.91E-02	1.22E+01	2.00E-06	1.48E+03	7.61E+01	2.94E+01	1.65E-01	1.62E+03	3.27E+00	4.32E+03	4.26E+00	1.70E-03
CV-MW3	2.09E+02	6.02E-01	1.00E-01	1.27E+01	2.03E-06	1.56E+03	7.81E+01	3.15E+01	1.78E-01	1.63E+03	3.27E+00	4.28E+03	4.29E+00	1.81E-03
CV-MW4	1.88E+02	5.78E-01	9.93E-02	1.23E+01	2.09E-06	1.46E+03	7.60E+01	2.79E+01	1.58E-01	1.51E+03	3.27E+00	5.75E+03	4.25E+00	1.63E-03
CV-LW1	2.20E+02	7.50E-01	1.09E-01	1.72E+01	2.71E-06	1.85E+03	7.40E+01	2.90E+01	1.88E-01	1.44E+03	3.27E+00	2.88E+03	4.14E+00	1.67E-03
CV-LW2	2.26E+02	7.61E-01	1.09E-01	1.74E+01	2.72E-06	1.88E+03	7.49E+01	2.99E+01	1.94E-01	1.44E+03	3.27E+00	2.87E+03	4.16E+00	1.72E-03
CV-LW3	2.27E+02	7.65E-01	1.09E-01	1.75E+01	2.73E-06	1.89E+03	7.48E+01	2.99E+01	1.95E-01	1.44E+03	3.26E+00	2.90E+03	4.14E+00	1.72E-03
CV-LW4	2.26E+02	7.79E-01	1.10E-01	1.80E+01	2.82E-06	1.92E+03	7.41E+01	2.93E+01	1.94E-01	1.31E+03	3.26E+00	2.58E+03	4.12E+00	1.69E-03
CV-WM0	2.35E+02	8.23E-01	1.05E-01	1.87E+01	2.76E-06	2.02E+03	7.08E+01	2.96E+01	2.00E-01	1.52E+03	3.24E+00	1.25E+03	3.81E+00	1.66E-03

Angelus Block Environmental Product Declaration

Product Composition

The material composition of each product is listed below. Products are indicated using the plant and mix abbreviations from Table 1. Materials are in order by descending weight; those marked with an asterisk (*) are used for packaging and are not included in the final product.

TX-NW1: natural aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

TX-NW2: natural aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

TX-NW3: natural aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

TX-MW1: natural aggregate, lightweight aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

TX-MW2: natural aggregate, lightweight aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

TX-MW3: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

TX-MW4: natural aggregate, Type IL cement, lightweight aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

TX-LW1: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

TX-LW2: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

TX-LW3: lightweight aggregate, natural aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

TX-LW4: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

SH-SS0: natural aggregate, Type IL cement, batch water, pigment, wooden pallet*, admixture, stretch wrap*

OC-SS0: natural aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

OC-NW1: natural aggregate, recycled aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

OC-NW2: natural aggregate, recycled aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

OC-NW3: natural aggregate, recycled aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

OC-MW1: natural aggregate, lightweight aggregate, recycled aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

OC-MW2: natural aggregate, lightweight aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

OC-MW3: natural aggregate, lightweight aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

OC-MW4: natural aggregate, Type IL cement, lightweight aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

OC-LW1: lightweight aggregate, natural aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

OC-LW2: lightweight aggregate, natural aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

OC-LW3: natural aggregate, recycled aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

OC-LW4: natural aggregate, recycled aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*, foam packaging*

FO-SS0: natural aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, stretch wrap*

FO-NW1: natural aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*

FO-NW2: natural aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*

FO-NW3: natural aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

FO-MW1: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

Angelus Block Environmental Product Declaration

Product Composition   (cont.)

FO-MW2: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

FO-MW3: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

FO-MW4: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

RB-SS0: natural aggregate, recycled aggregate, Type IL cement, batch water, wooden pallet*, admixture, pigment, stretch wrap*

RB-NW1: natural aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*

RB-NW2: natural aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, admixture, pigment, stretch wrap*

RB-NW3: natural aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, admixture, pigment, stretch wrap*

RB-MW1: natural aggregate, lightweight aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*

RB-MW2: natural aggregate, lightweight aggregate, Type IL cement, recycled aggregate, batch water, wooden pallet*, admixture, pigment, stretch wrap*

RB-MW3: natural aggregate, Type IL cement, lightweight aggregate, recycled aggregate, batch water, wooden pallet*, admixture, pigment, stretch wrap*

RB-MW4: natural aggregate, Type IL cement, lightweight aggregate, batch water, wooden pallet*, admixture, pigment, stretch wrap*

RB-LW1: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, admixture, pigment, stretch wrap*

RB-LW2: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, admixture, pigment, stretch wrap*

RB-LW3: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, admixture, pigment, stretch wrap*

RB-LW4: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, admixture, pigment, stretch wrap*

VT-SS0: natural aggregate, Type IL cement, batch water, pigment, wooden pallet*, admixture, stretch wrap*

VT-NW1: natural aggregate, recycled aggregate, Type IL cement, batch water, pigment, wooden pallet*, admixture, stretch wrap*

VT-NW2: natural aggregate, Type IL cement, recycled aggregate, batch water, pigment, wooden pallet*, admixture, stretch wrap*

VT-NW3: natural aggregate, Type IL cement, recycled aggregate, batch water, pigment, wooden pallet*, admixture, stretch wrap*

VT-MW1: natural aggregate, lightweight aggregate, Type IL cement, recycled aggregate, batch water, pigment, wooden pallet*, admixture, stretch wrap*

VT-MW2: natural aggregate, lightweight aggregate, Type IL cement, recycled aggregate, batch water, pigment, wooden pallet*, admixture, stretch wrap*

VT-MW3: natural aggregate, lightweight aggregate, Type IL cement, recycled aggregate, batch water, pigment, wooden pallet*, admixture, stretch wrap*

VT-MW4: natural aggregate, Type IL cement, lightweight aggregate, batch water, pigment, wooden pallet*, admixture, stretch wrap*

VT-LW1: lightweight aggregate, natural aggregate, Type IL cement, batch water, pigment, wooden pallet*, admixture, stretch wrap*

VT-LW2: lightweight aggregate, natural aggregate, Type IL cement, batch water, pigment, wooden pallet*, admixture, stretch wrap*

VT-LW3: natural aggregate, lightweight aggregate, Type IL cement, batch water, pigment, wooden pallet*, admixture, stretch wrap*

VT-LW4: lightweight aggregate, natural aggregate, Type IL cement, batch water, pigment, wooden pallet*, admixture, stretch wrap*

CV-SS0: natural aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

CV-NW1: natural aggregate, batch water, Type IL cement, wooden pallet*, pigment, admixture, stretch wrap*

CV-NW2: natural aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

CV-NW3: natural aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

CV-MW1: natural aggregate, lightweight aggregate, batch water, Type IL cement, wooden pallet*, pigment, admixture, stretch wrap*

CV-MW2: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

Angelus Block Environmental Product Declaration

Product Composition (cont.)

CV-MW3: natural aggregate, lightweight aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

CV-MW4: natural aggregate, Type IL cement, batch water, lightweight aggregate, wooden pallet*, pigment, admixture, stretch wrap*

CV-LW1: lightweight aggregate, natural aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

CV-LW2: lightweight aggregate, natural aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

CV-LW3: lightweight aggregate, natural aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

CV-LW4: lightweight aggregate, natural aggregate, Type IL cement, batch water, wooden pallet*, pigment, admixture, stretch wrap*

CV-WM0: natural aggregate, Type IL cement, lightweight aggregate, batch water, wooden pallet*, pigment, admixture, stretch wrap*

Environmental Management System

Angelus Block Co. supports green building rating systems, including:

- Leadership in Energy & Environmental Design (LEED)
  http://www.usgbc.org/leed
- The Collaborative for High Performance Schools
  http://www.chps.net
- Green Globes, Green Building Initiative
  http://www.thegbi.org

Health Hazard Assessment

Sawing or grinding of any CMU product may result in the release of dust particles. Acute exposure can cause minor irritation of the eyes or nose; chronic exposure can result in lung disease (silicosis) if exposed to excessive amounts for prolonged periods.

Preferred Waste Management Option

The organization has a robust take-back recycling program for concrete masonry products. It converts waste, recovered, and jobsite returned material to recycled aggregate for use in production of concrete masonry units and hardscape products. For this purpose, the incoming material is inspected for sustainability of reuse; production culls and spoiled inventory are identified as pre-consumer waste, and unused special order material and CMU waste from construction sites are identified as post-consumer waste.