DECLARACIÓN AMBIENTAL DE PRODUCTO

CONCRETO
Planta 170 **/ Colombia**

SOSTENIBILIDAD COLOMBIA
2024

Declared product:

This Environmental Product Declaration (EPD) covers ready-mix concrete products manufactured by CEMEX Colombia in the Calle 170 Plant.
Plant address: Cra 7 # 171 - 98 Entrada 2 Barrio La Cita, Bogotá, Colombia.
Declared unit**:** 1 cubic meter of concrete

Declaration Owner:

CEMEX Colombia S.A.
Cl. 99 #9a 54, Bogotá, Colombia
SustainabilitySCA&C@cemex.com
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Program Operator:

Labeling Sustainability
11670 W Sunset Blvd.
Los Angeles, CA
http://labelinsustainability.com/

ISO 21930:2017 Sustainability in Building Construction – Environmental Declaration of Building Products serves as the core PCR.

NSF PCR for Concrete (NSF, 2022v) serves as the subcategory PCR.

Subcategory PCR Review was conducted by:

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Independent verification of the declaration and data, according to ISO 21930:2017 and ISO 14025:2006

✓ External ☐ Internal

Third-party verifier:

Denice V. Staaf, Certified 3rd Party Verifier under Labeling Sustainability (www.labelingsustainability.com)

EPD Software Tool: GCCA Industry EPD Tool for Cement and Concrete (V4.2), North American version.

Date of Issue: 28 February 2025
Period of validity: 28 February 2030
EPD Number: CCO02282503

ENVIRONMENTAL PRODUCT DECLARATION
CEMEX COLOMBIA

1. Company Description

CEMEX S.A.B. de C.V. (CEMEX) is at global building materials company dedicated to building at better future through sustainable products and solutions. CEMEX is committed to achieving carbon neutrality through constant innovation and industry leadership in research and development. CEMEX is at the front of the circular economy within the construction value chain and promotes innovative processes with the use of advanced technologies to increase the use of waste as raw materials and alternative fuels in its operations. CEMEX provides cement, ready-mix concrete, aggregates, and urban solutions in fast-growing markets around the world, powered by a multinational workforce focused on delivering superior customer experience, using digital technologies.

Cemex Colombia's cement plants have an environmental management system certified under ISO 14001, which guarantees that the environmental impact is being rigorously measured, that pollution is being prevented, and that continuous improvement is enabled.

2. Study Goal

The intended application of this life cycle assessment (LCA) is to comply with the procedures for creating Type III environmental product declaration (EPD) and publish the EPD for public review on the website, http://labelingsustainability.com/. This level of study is in accordance with EPD Product Category Rule (PCR) for Concrete (version 2.3, dated February 2024) and is at sub-PCR of International Standards Organization (ISO) 21930:2017 Sustainability in buildings and civil works - Core rules for EPDs of construction products and services; International Standards Organization (ISO) 14025:2006 Environmental labels and declarations, Type III environmental declarations-Principles and procedures; ISO 14044:2006 Environmental management, Life cycle assessment- Requirements and guidelines; and ISO 14040:2006 Environmental management, Life cycle assessment-Principles and framework. EPDs for concrete that follow other PCRs may not be comparable.

The performance of this study and its subsequent publishing is in alignment with the business-to-business (B2B) communication requirements for the environmental assessment of building products. The study does not intend to support comparative assertions and is intended to be disclosed to the public. This project report was commissioned to differentiate CEMEX S.A.B. de C.V.

from their competition for the following reasons: generate an advantage for the organization; offer customers information to help them make informed product decisions; improve the environmental performance of CEMEX S.A.B. de C.V. by continuously measuring, controlling and reducing the environmental impacts of their products; help project facilitators working on Leadership in Energy and Environmental Design (LEED) projects achieve their credit goal; and to strengthen CEMEX S.A.B. de C.V. license to operate in the community. The intended audience for this LCA report is CEMEX S.A.B. de C.V. employees, their suppliers, project specifiers of their products, architects, and engineers. The EPD report is also available for policy makers, government officials interested in sustainability, academic professors, and LCA professionals. This LCA report does not include product comparisons of other facilities.

Only EPDs prepared from cradle-to-grave life-cycle results and based on the same function, reference service life, and quantified by the same functional unit, can be used to assist purchasers and users in making informed comparisons between products. Since EPDs developed under these PCR only cover the cradle-to-gate impacts of Ready-mix concrete, using at declared unit, the results cannot be used to compare products used in different mixtures and construction products. The results from Concrete EPD must be integrated into a comprehensive cradle-to-grave, ISO 14044-compliant LCA to compare between different products. The basis of at comparison, where applicable, shall include the product application in accordance with ISO 21930 ASTM (2014).

3. Product Information

3.1. Product Identification

This EPD is prepared for products classified as UN CPC Group 3744-Cement or CSI MasterFormat Division 03 30 00 Cast-in-Place Concrete.

3.2. Ready-mix Concrete Design Summary

The following table provides a list of the concrete products considered in this EPD along with key performance parameters.

Strength <15 MPa

Table 1. Declared products considered in this Environmental Product Declaration

N°	Ready-mix	Description	Strength (MPa)	Age (Days)	Slump (cm)	Category
1	1-105-5-A-28-10-0-3-000	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	10	Convencional
2	1-105-5-A-28-13-1-3-000	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	13	Convencional
3	1-105-5-A-28-15-1-3-000	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	15	Convencional
4	1-105-5-A-28-20-1-3-000	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	20	Convencional

Table 1. Declared products considered in this Environmental Product Declaration						
N°	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
5	**1-140-3-A-28-13-1-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	13	Convencional
6	**1-140-5-A-28-10-0-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	10	Convencional
7	**1-140-5-A-28-13-1-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	13	Convencional
8	**1-140-5-A-28-15-1-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	15	Convencional
9	**M-105-0-A-28-13-1-3-000**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	13	Mortero
10	**M-105-0-A-28-13-1-3-020**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	13	Mortero
11	**M-105-0-A-28-13-1-3-061**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	13	Mortero
12	**M-105-0-A-28-15-1-3-000**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	15	Mortero
13	**M-105-0-A-28-15-1-3-020**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	15	Mortero
14	**M-105-0-A-28-20-1-3-000**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	20	Mortero
15	**M-125-0-A-28-15-1-3-000**	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	15	Mortero
16	**M-125-0-A-28-15-1-3-001**	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	15	Mortero
17	**M-125-0-A-28-15-1-3-00S**	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	15	Mortero
18	**M-125-0-A-28-15-1-3-060**	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	15	Mortero
19	**M-140-0-A-28-13-1-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	13	Mortero
20	**M-140-0-A-28-13-1-3-01L**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	13	Mortero
21	**M-140-0-A-28-13-1-3-061**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	13	Mortero
22	**M-140-0-A-28-15-1-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	15	Mortero
23	**M-140-0-A-28-15-1-3-01K**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	15	Mortero
24	**M-140-0-A-28-15-1-3-03Z**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	15	Mortero
25	**M-140-0-A-28-20-1-3-060**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	20	Mortero
26	**P-036-5-A-28-15-1-3-000**	3.53 MPa at 28 Days Strength Ready Mix Concrete	3.5	28	15	Pavimento
27	**P-039-5-A-07-13-0-3-000**	3.82 MPa at 07 Days Strength Ready Mix Concrete	3.8	7	13	Pavimento
28	**P-040-5-A-03-13-0-3-000**	3.92 MPa at 03 Days Strength Ready Mix Concrete	3.9	3	13	Pavimento
29	**P-040-5-A-07-13-0-3-000**	3.92 MPa at 07 Days Strength Ready Mix Concrete	3.9	7	13	Pavimento

Table 1. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
30	**P-040-5-A-28-10-0-3-000**	3.92 MPa at 28 Days Strength Ready Mix Concrete	3.9	28	10	Pavimento
31	**P-040-5-A-28-13-0-3-000**	3.92 MPa at 28 Days Strength Ready Mix Concrete	3.9	28	13	Pavimento
32	**P-041-5-A-28-10-0-3-000**	4.02 MPa at 28 Days Strength Ready Mix Concrete	4.0	28	10	Pavimento
33	**P-041-5-A-28-13-0-3-000**	4.02 MPa at 28 Days Strength Ready Mix Concrete	4.0	28	13	Pavimento
34	**P-041-5-A-28-15-1-3-000**	4.02 MPa at 28 Days Strength Ready Mix Concrete	4.0	28	15	Pavimento
35	**P-042-5-A-28-18-0-3-530**	4.12 MPa at 28 Days Strength Ready Mix Concrete	4.1	28	18	Pavimento
36	**P-043-5-A-03-13-0-3-000**	4.22 MPa at 03 Days Strength Ready Mix Concrete	4.2	3	13	Pavimento
37	**P-045-5-A-03-13-0-3-000**	4.41 MPa at 03 Days Strength Ready Mix Concrete	4.4	3	13	Pavimento
38	**P-045-5-A-03-13-0-3-534**	4.41 MPa at 03 Days Strength Ready Mix Concrete	4.4	3	13	Pavimento
39	**P-045-5-A-07-13-0-3-000**	4.41 MPa at 07 Days Strength Ready Mix Concrete	4.4	7	13	Pavimento
40	**P-045-5-A-07-13-0-3-534**	4.41 MPa at 07 Days Strength Ready Mix Concrete	4.4	7	13	Pavimento
41	**P-045-5-A-28-10-0-3-000**	4.41 MPa at 28 Days Strength Ready Mix Concrete	4.4	28	10	Pavimento
42	**P-045-5-A-28-13-0-3-000**	4.41 MPa at 28 Days Strength Ready Mix Concrete	4.4	28	13	Pavimento
43	**P-045-5-A-28-15-1-3-000**	4.41 MPa at 28 Days Strength Ready Mix Concrete	4.4	28	15	Pavimento
44	**R-010-0-A-28-20-0-3-000**	0.98 MPa at 28 Days Strength Ready Mix Concrete	1.0	28	20	Rellenos Fluidos

Strength 15 to 20 MPa

Table 2. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
45	**1-175-5-A-28-10-0-3-000**	17.16 MPa at 28 Days Strength Ready Mix Concrete	17.2	28	10	Convencional
46	**1-175-5-A-28-15-1-3-000**	17.16 MPa at 28 Days Strength Ready Mix Concrete	17.2	28	15	Convencional
47	**M-175-0-A-28-15-1-3-000**	17.16 MPa at 28 Days Strength Ready Mix Concrete	17.2	28	15	Mortero
48	**M-175-0-A-28-15-1-3-060**	17.16 MPa at 28 Days Strength Ready Mix Concrete	17.2	28	15	Mortero

Strength 20 to 35 MPa

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
49	**1-210-3-A-03-13-1-3-000**	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	13	Acelerado
50	**1-210-3-A-03-13-1-3-001**	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	13	Acelerado
51	**1-210-3-A-07-13-1-3-000**	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	13	Acelerado
52	**1-210-3-A-07-15-1-3-000**	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	15	Acelerado
53	**1-210-3-A-28-10-0-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	10	Convencional
54	**1-210-3-A-28-13-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
55	**1-210-3-A-28-13-1-3-061**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
56	**1-210-3-A-28-15-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
57	**1-210-3-A-28-15-1-3-001**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
58	**1-210-3-A-28-15-1-3-004**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
59	**1-210-3-A-28-15-1-3-01N**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
60	**1-210-3-A-28-15-1-3-05I**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
61	**1-210-3-A-28-20-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Convencional
62	**1-210-5-A-03-13-1-3-000**	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	13	Acelerado
63	**1-210-5-A-03-15-1-3-000**	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	15	Acelerado
64	**1-210-5-A-07-13-1-3-000**	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	13	Acelerado
65	**1-210-5-A-07-15-1-3-000**	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	15	Acelerado
66	**1-210-5-A-07-20-1-3-000**	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	20	Acelerado
67	**1-210-5-A-14-13-1-3-000**	20.59 MPa at 14 Days Strength Ready Mix Concrete	20.6	14	13	Acelerado
68	**1-210-5-A-28-10-0-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	10	Convencional
69	**1-210-5-A-28-13-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
70	**1-210-5-A-28-13-1-3-001**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
71	**1-210-5-A-28-15-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
72	**1-210-5-A-28-15-1-3-001**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
73	**1-210-5-A-28-15-1-3-004**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
74	**1-210-5-A-28-15-1-3-05M**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
75	**1-210-5-A-28-15-1-3-061**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
76	**1-210-5-A-28-20-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Convencional
77	**1-210-5-A-28-20-1-3-060**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Convencional
78	**1-210-5-A-28-20-1-3-061**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Convencional
79	**1-245-3-A-03-15-1-3-000**	24.03 MPa at 03 Days Strength Ready Mix Concrete	24.0	3	15	Acelerado
80	**1-245-3-A-14-15-1-3-01M**	24.03 MPa at 14 Days Strength Ready Mix Concrete	24.0	14	15	Acelerado
81	**1-245-3-A-28-15-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	15	Convencional
82	**1-245-3-A-28-15-1-3-061**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	15	Convencional
83	**1-245-3-A-28-20-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	20	Convencional
84	**1-245-5-A-03-13-1-3-000**	24.03 MPa at 03 Days Strength Ready Mix Concrete	24.0	3	13	Acelerado
85	**1-245-5-A-03-15-1-3-000**	24.03 MPa at 03 Days Strength Ready Mix Concrete	24.0	3	15	Acelerado
86	**1-245-5-A-07-13-1-3-000**	24.03 MPa at 07 Days Strength Ready Mix Concrete	24.0	7	13	Acelerado
87	**1-245-5-A-14-15-1-3-000**	24.03 MPa at 14 Days Strength Ready Mix Concrete	24.0	14	15	Acelerado
88	**1-245-5-A-28-10-0-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	10	Convencional
89	**1-245-5-A-28-13-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	13	Convencional
90	**1-245-5-A-28-15-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	15	Convencional
91	**1-245-5-A-28-20-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	20	Convencional
92	**1-280-3-A-03-13-1-3-000**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	13	Acelerado
93	**1-280-3-A-03-15-1-3-000**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
94	**1-280-3-A-03-15-1-3-001**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
95	**1-280-3-A-03-15-1-3-01O**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
96	**1-280-3-A-03-20-1-3-000**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	20	Acelerado

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
97	**1-280-3-A-07-13-1-3-000**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	13	Acelerado
98	**1-280-3-A-07-15-1-3-000**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	15	Acelerado
99	**1-280-3-A-07-20-1-3-000**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	20	Acelerado
100	**1-280-3-A-14-13-1-3-00N**	27.46 MPa at 14 Days Strength Ready Mix Concrete	27.5	14	13	Acelerado
101	**1-280-3-A-14-20-1-3-000**	27.46 MPa at 14 Days Strength Ready Mix Concrete	27.5	14	20	Acelerado
102	**1-280-3-A-28-10-0-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	10	Convencional
103	**1-280-3-A-28-13-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
104	**1-280-3-A-28-13-1-3-013**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
105	**1-280-3-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
106	**1-280-3-A-28-15-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
107	**1-280-3-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
108	**1-280-3-A-28-20-1-3-061**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
109	**1-280-5-A-03-13-1-3-000**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	13	Acelerado
110	**1-280-5-A-03-15-1-3-000**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
111	**1-280-5-A-03-15-1-3-001**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
112	**1-280-5-A-03-20-1-3-000**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	20	Acelerado
113	**1-280-5-A-07-13-1-3-000**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	13	Acelerado
114	**1-280-5-A-07-15-1-3-000**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	15	Acelerado
115	**1-280-5-A-07-15-1-3-001**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	15	Acelerado
116	**1-280-5-A-07-20-1-3-000**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	20	Acelerado
117	**1-280-5-A-14-15-1-3-000**	27.46 MPa at 14 Days Strength Ready Mix Concrete	27.5	14	15	Acelerado
118	**1-280-5-A-28-10-0-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	10	Convencional
119	**1-280-5-A-28-13-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
120	**1-280-5-A-28-13-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional

Table 3. Declared products considered in this Environmental Product Declaration						
N°	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
121	**1-280-5-A-28-13-1-3-004**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
122	**1-280-5-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
123	**1-280-5-A-28-15-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
124	**1-280-5-A-28-15-1-3-002**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
125	**1-280-5-A-28-15-1-3-004**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
126	**1-280-5-A-28-15-1-3-009**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
127	**1-280-5-A-28-15-1-3-00S**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
128	**1-280-5-A-28-15-1-3-060**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
129	**1-280-5-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
130	**1-315-3-A-28-15-1-3-000**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	15	Convencional
131	**1-315-5-A-28-10-0-3-000**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	10	Convencional
132	**1-315-5-A-28-13-1-3-000**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	13	Convencional
133	**1-315-5-A-28-15-1-3-000**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	15	Convencional
134	**1-315-5-A-28-15-1-3-001**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	15	Convencional
135	**1-315-5-A-28-15-1-3-009**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	15	Convencional
136	**1-350-3-A-03-15-1-3-000**	34.32 MPa at 03 Days Strength Ready Mix Concrete	34.3	3	15	Acelerado
137	**1-350-3-A-03-20-1-3-000**	34.32 MPa at 03 Days Strength Ready Mix Concrete	34.3	3	20	Acelerado
138	**1-350-3-A-07-15-1-3-000**	34.32 MPa at 07 Days Strength Ready Mix Concrete	34.3	7	15	Acelerado
139	**1-350-3-A-28-15-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
140	**1-350-3-A-28-20-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Convencional
141	**1-350-3-A-28-20-1-3-060**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Convencional
142	**1-350-3-A-28-20-1-3-061**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Convencional
143	**1-350-5-A-03-13-1-3-000**	34.32 MPa at 03 Days Strength Ready Mix Concrete	34.3	3	13	Acelerado
144	**1-350-5-A-03-15-1-3-000**	34.32 MPa at 03 Days Strength Ready Mix Concrete	34.3	3	15	Acelerado

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
145	**1-350-5-A-03-15-1-3-004**	34.32 MPa at 03 Days Strength Ready Mix Concrete	34.3	3	15	Acelerado
146	**1-350-5-A-07-15-1-3-000**	34.32 MPa at 07 Days Strength Ready Mix Concrete	34.3	7	15	Acelerado
147	**1-350-5-A-28-10-0-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	10	Convencional
148	**1-350-5-A-28-13-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	13	Convencional
149	**1-350-5-A-28-15-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
150	**1-350-5-A-28-15-1-3-001**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
151	**1-350-5-A-28-15-1-3-004**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
152	**1-350-5-A-28-20-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Convencional
153	**1-350-5-A-28-20-1-3-00S**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Convencional
154	**2-280-5-A-28-15-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Durabilidad
155	**3-280-3-A-28-13-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Durabilidad
156	**3-280-3-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Durabilidad
157	**3-280-3-A-28-15-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Durabilidad
158	**3-280-3-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Durabilidad
159	**3-280-3-A-28-65-1-3-04Z**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	65	Durabilidad
160	**3-280-3-A-28-65-1-3-061**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	65	Durabilidad
161	**3-280-5-A-28-13-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Durabilidad
162	**3-280-5-A-28-13-1-3-013**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Durabilidad
163	**3-280-5-A-28-15-1-3-009**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Durabilidad
164	**3-280-5-A-28-15-1-3-013**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Durabilidad
165	**3-280-5-A-28-15-1-3-072**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Durabilidad
166	**7-210-3-A-28-15-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
167	**7-210-3-A-28-15-1-3-061**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
168	**7-210-3-A-28-20-1-3-061**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Convencional

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
169	**7-210-5-A-28-15-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
170	**7-210-5-A-28-15-1-3-004**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
171	**7-210-5-A-28-15-1-3-01P**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
172	**7-210-5-A-28-15-1-3-061**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
173	**7-280-3-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
174	**7-280-3-A-28-15-1-3-061**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
175	**7-280-3-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
176	**7-280-3-A-28-20-1-3-061**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
177	**7-280-5-A-28-13-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
178	**7-280-5-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
179	**7-350-3-A-28-15-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
180	**7-350-3-A-28-15-1-3-01P**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
181	**7-350-3-A-28-15-1-3-061**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
182	**7-350-3-A-28-20-1-3-061**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Convencional
183	**7-350-5-A-28-15-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
184	**7-350-5-A-28-15-1-3-01P**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
185	**7-350-5-A-28-15-1-3-061**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
186	**8-210-5-A-28-20-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Especial
187	**8-280-3-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Especial
188	**8-280-3-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Especial
189	**8-280-3-A-28-20-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Especial
190	**8-280-5-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Especial
191	**8-315-5-A-28-15-1-3-000**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	15	Especial
192	**8-350-3-A-28-15-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Especial

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
193	**8-350-3-A-28-20-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Especial
194	**8-350-5-A-28-15-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Especial
195	**C-210-3-A-28-25-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	25	Especial
196	**C-245-3-A-28-25-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	25	Especial
197	**C-245-3-A-28-25-1-3-200**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	25	Especial
198	**F-210-3-A-18-65-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	65	Especial
199	**I-280-5-A-28-13-1-3-05A**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Especial
200	**I-280-5-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Especial
201	**I-280-5-A-28-15-1-3-01M**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Especial
202	**I-280-5-A-28-15-1-3-03Z**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Especial
203	**I-280-5-A-28-15-1-3-05H**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Especial
204	**I-350-5-A-28-15-1-3-01M**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Especial
205	**J-210-3-A-28-65-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	65	Especial
206	**M-210-0-A-28-13-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Mortero
207	**M-210-0-A-28-13-1-3-001**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Mortero
208	**M-210-0-A-28-13-1-3-00S**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Mortero
209	**M-210-0-A-28-13-1-3-01L**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Mortero
210	**M-210-0-A-28-20-1-3-04A**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Mortero
211	**M-280-0-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Mortero
212	**M-280-0-A-28-20-1-3-061**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Mortero
213	**O-210-3-A-18-15-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	15	Industrializado
214	**O-210-3-A-18-15-1-3-01P**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	15	Industrializado
215	**O-210-3-A-18-15-1-3-061**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	15	Industrializado
216	**O-210-3-A-18-18-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	18	Industrializado

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
217	**O-210-3-A-18-18-1-3-061**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	18	Industrializado
218	**O-210-3-A-18-20-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	20	Industrializado
219	**O-210-3-A-18-23-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	23	Industrializado
220	**O-210-5-A-18-13-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	13	Industrializado
221	**O-210-5-A-18-13-1-3-009**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	13	Industrializado
222	**O-210-5-A-18-13-1-3-060**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	13	Industrializado
223	**O-210-5-A-18-15-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	15	Industrializado
224	**O-210-5-A-18-15-1-3-001**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	15	Industrializado
225	**O-210-5-A-20-13-1-3-000**	20.59 MPa at 20 Days Strength Ready Mix Concrete	20.6	20	13	Industrializado
226	**O-245-5-A-18-13-1-3-000**	24.03 MPa at 18 Days Strength Ready Mix Concrete	24.0	18	13	Industrializado
227	**O-280-3-A-18-15-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	15	Industrializado
228	**O-280-3-A-18-18-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	18	Industrializado
229	**O-280-3-A-18-18-1-3-001**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	18	Industrializado
230	**O-280-3-A-18-20-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	20	Industrializado
231	**O-280-3-A-18-23-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	23	Industrializado
232	**O-280-5-A-18-13-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	13	Industrializado
233	**O-280-5-A-18-15-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	15	Industrializado
234	**O-315-3-A-18-18-1-3-000**	30.89 MPa at 18 Days Strength Ready Mix Concrete	30.9	18	18	Industrializado
235	**O-350-3-A-18-13-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	13	Industrializado
236	**O-350-3-A-18-18-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	18	Industrializado
237	**O-350-3-A-18-20-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	20	Industrializado
238	**O-350-3-A-18-23-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	23	Industrializado
239	**Q-210-5-A-28-15-1-4-547**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Especial
240	**Q-280-3-A-28-13-1-3-501**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Especial

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
241	**Q-280-3-A-28-13-1-3-63M**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Especial
242	**Q-350-3-A-28-15-1-3-60G**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Especial
243	**T-210-3-A-28-18-1-3-665**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	18	Tremie
244	**T-210-3-A-28-20-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Tremie
245	**T-210-5-A-28-18-1-3-665**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	18	Tremie
246	**T-210-5-A-28-20-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Tremie
247	**T-245-3-A-28-20-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	20	Tremie
248	**T-245-5-A-28-20-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	20	Tremie
249	**T-280-3-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Tremie
250	**T-280-5-A-28-18-1-3-665**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	18	Tremie
251	**T-280-5-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Tremie
252	**T-280-5-A-28-20-1-3-200**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Tremie
253	**T-350-3-A-28-20-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Tremie
254	**T-350-5-A-28-18-1-3-665**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	18	Tremie
255	**T-350-5-A-28-20-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Tremie
256	**T-350-5-A-28-20-1-3-464**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Tremie
257	**V-210-3-A-03-65-1-3-000**	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	65	Especial
258	**V-210-3-A-28-65-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	65	Especial
259	**V-210-3-A-28-65-1-3-012**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	65	Especial
260	**V-210-3-A-28-65-1-3-021**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	65	Especial
261	**V-245-3-A-28-65-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	65	Especial
262	**V-280-3-A-28-65-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	65	Especial
263	**V-280-3-A-28-65-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	65	Especial
264	**V-315-3-A-28-65-1-3-000**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	65	Especial

Table 3. Declared products considered in this Environmental Product Declaration						
N°	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
265	**V-350-3-A-03-65-1-3-000**	34.32 MPa at 03 Days Strength Ready Mix Concrete	34.3	3	65	Especial
266	**V-350-3-A-28-65-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	65	Especial
267	**V-350-3-A-28-65-1-3-001**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	65	Especial
268	**V-350-3-A-28-65-1-3-012**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	65	Especial

Strength >35 MPa

Table 4. Declared products considered in this Environmental Product Declaration						
N°	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
269	**1-385-3-A-28-13-1-3-000**	37.76 MPa at 28 Days Strength Ready Mix Concrete	37.8	28	13	Convencional
270	**1-420-3-A-03-15-1-3-000**	41.19 MPa at 03 Days Strength Ready Mix Concrete	41.2	3	15	Acelerado
271	**1-420-3-A-28-20-1-3-000**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	20	Convencional
272	**1-420-5-A-03-15-1-3-000**	41.19 MPa at 03 Days Strength Ready Mix Concrete	41.2	3	15	Acelerado
273	**1-420-5-A-14-15-1-3-001**	41.19 MPa at 14 Days Strength Ready Mix Concrete	41.2	14	15	Acelerado
274	**1-420-5-A-28-15-1-3-000**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	15	Convencional
275	**1-420-5-A-28-15-1-3-001**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	15	Convencional
276	**3-420-5-A-28-15-1-3-000**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	15	Durabilidad
277	**3-420-5-A-28-15-1-3-001**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	15	Durabilidad
278	**3-420-5-A-28-15-1-3-072**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	15	Durabilidad
279	**8-420-3-A-28-20-1-3-000**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	20	Especial
280	**A-490-3-A-28-15-1-3-551**	48.05 MPa at 28 Days Strength Ready Mix Concrete	48.1	28	15	Alta resistencia
281	**A-490-3-A-28-20-1-3-551**	48.05 MPa at 28 Days Strength Ready Mix Concrete	48.1	28	20	Alta resistencia
282	**A-490-3-A-28-65-1-3-402**	48.05 MPa at 28 Days Strength Ready Mix Concrete	48.1	28	65	Alta resistencia
283	**A-490-3-A-28-65-1-3-523**	48.05 MPa at 28 Days Strength Ready Mix Concrete	48.1	28	65	Alta resistencia
284	**A-700-3-A-28-20-1-3-551**	68.65 MPa at 28 Days Strength Ready Mix Concrete	68.6	28	20	Alta resistencia

Table 4. Declared products considered in this Environmental Product Declaration						
N°	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
285	**F-420-3-A-18-65-1-3-000**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	65	Especial
286	**O-420-3-A-18-13-1-3-000**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	13	Industrializado
287	**O-420-3-A-18-18-1-3-000**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	18	Industrializado
288	**O-420-3-A-18-20-1-3-000**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	20	Industrializado
289	**O-420-3-A-18-23-1-3-000**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	23	Industrializado
290	**O-420-3-A-18-23-1-3-001**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	23	Industrializado
291	**O-420-3-A-20-20-1-3-000**	41.19 MPa at 20 Days Strength Ready Mix Concrete	41.2	20	20	Industrializado
292	**O-420-5-A-18-15-1-3-000**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	15	Industrializado
293	**V-420-3-A-03-65-1-3-000**	41.19 MPa at 03 Days Strength Ready Mix Concrete	41.2	3	65	Especial
294	**V-420-3-A-28-65-1-3-000**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	65	Especial

The following table provides the mass breakdown (kg per functional unit) of the material composition of each ready-mix concrete design considered. Please note that the breakdown has been randomly altered and is therefore only an approximation; this manipulation is to ensure confidentiality.

Table 5. Ready-mix Concrete Composition	
Product Components	**Raw Material, weight (%)**
Cement	Proprietary
Aggregates	30 - 60
Water	10-15
Others	0.01 – 5.00
Total	100.00

This EPD was calculated using manufacturer-specific cement data from Cemex, representing 100% of the total cement used in each mix included in this EPD. The cement data used in the concrete mixes is Cemex' cement products EPDs, which are supplied from Caracolito Plant[1] in Ibagué and Santa Rosa Plant[2] in La Calera. The GCCA Industry EPD tool uses the results from the clinker and cement life cycle assessment to generate results.

[1] EPD Number CCO01102501
[2] EPD Number CCO01102502

4. Life Cycle Assessment (LCA)

4.1 Declared Unit

This Environmental Product Declaration refers to **one cubic meter of ready-mix concrete (1 m^3)**

4.2 Time representativeness

Data was collected by CEMEX at its own plants between January and December 2023 (12 months) and the data collected is representative of the production technology used in 2023.

4.3 LCA Software and Data Bases Used

The Life Cycle Assessment was developed using the GCCA Industry EPD Tool for Cement and Concrete (V4.2), North American version, which uses Ecoinvent v3.5 and GCCA datasets for the LCA database.

4.4 System Boundaries

This study covers **the cradle-to-gate** stages of the product; transport to site (A4), construction (A5), Use (B) or end of life (C) stages of the products <u>are not included</u>. The following figure depicts the cradle-to-gate system boundary considered in this study:

Environmental assessment information (Cradle to Gate, A1-A3)
(MA – Module assessed, MNA – Module not assessed, INA – Indicator Not Assessed)

Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufaturing	Transport to construction site	Construction installation process	Use	Maintenance	Repair	Refurbishment	Operational energy use	Operational water use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery recycling potential
A1	A2	A3	A4	A5	B1	B2	A3	B4	B5	B6	B7	C1	C2	C3	C4	D
MA	MA	MA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	

Figure 1. General life cycle phases for consideration in construction works system.

1. A1: Raw material supply (upstream processes) - Extraction, handling, and processing of the materials used in manufacturing the declared products in this LCA.
2. A2: Transportation - Transportation of A1 materials from the supplier to the "gate" of the manufacturing facility (i.e., A3).
3. A3: Manufacturing (core processes)- The energy and other utility inputs used to store, move, and manufacture the declared products and to operate the facility.

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.

In addition, according to the relevant PCR, the following requirements are excluded from this study:

- Production, manufacture, and construction of A3 building/capital goods and infrastructure.
- Production and manufacture of production equipment, delivery vehicles, earthmoving equipment, and laboratory equipment.
- Personnel-related activities (travel, furniture, office supplies).

4.5 Process Information

4.5.1 Modules A1 - A2: Extraction and transport of raw materials

One of the main constituents of concrete is cement, and CEMEX is the manufacturer of the cement used in the concrete mixes. The following process describes the manufacture of cement.

Limestone and clay are extracted from the stone quarries by drilling and blasting with explosives, the impact of which is minimal thanks to the modern technology used. Once the large masses of stone have been fragmented, they are transported to the plant in trucks or conveyors.

The entire extraction process has rigorous operational controls that mitigate environmental impact, allow comprehensive monitoring and ensure compliance with the requirements of current environmental regulations.

The quarry material is fragmented in crushers and, by impact and/or pressure, reduced to a maximum size of one and at half inches. Then, in the pre-homogenization process, the different types of clay, limestone or any other material that is required are mixed proportionally. Each of the raw materials is transported separately to silos where they are for the production of different types of cement.

They are then ground using a vertical steel mill, which grinds the material by means of the pressure exerted by three conical rollers rolling on a rotating grinding table. Horizontal mills are also used for this phase, in which the material is pulverized by means of steel balls.

The homogenization process of raw meal is carried out in silos equipped to achieve a homogeneous mixture of the material. This meal is then subjected to the calcination process, the core part of the process, where large rotary kilns are used, inside which, at 1400 °C, the flour is transformed into clinker, which are small dark grey modules of 3 to 4 cm.

Finally, the clinker is ground through steel balls of different sizes as it passes through the two chambers of the mill, adding gypsum to lengthen the setting time of the cement. The cement is

sent to the storage silos; from which it is extracted by pneumatic or mechanical systems.

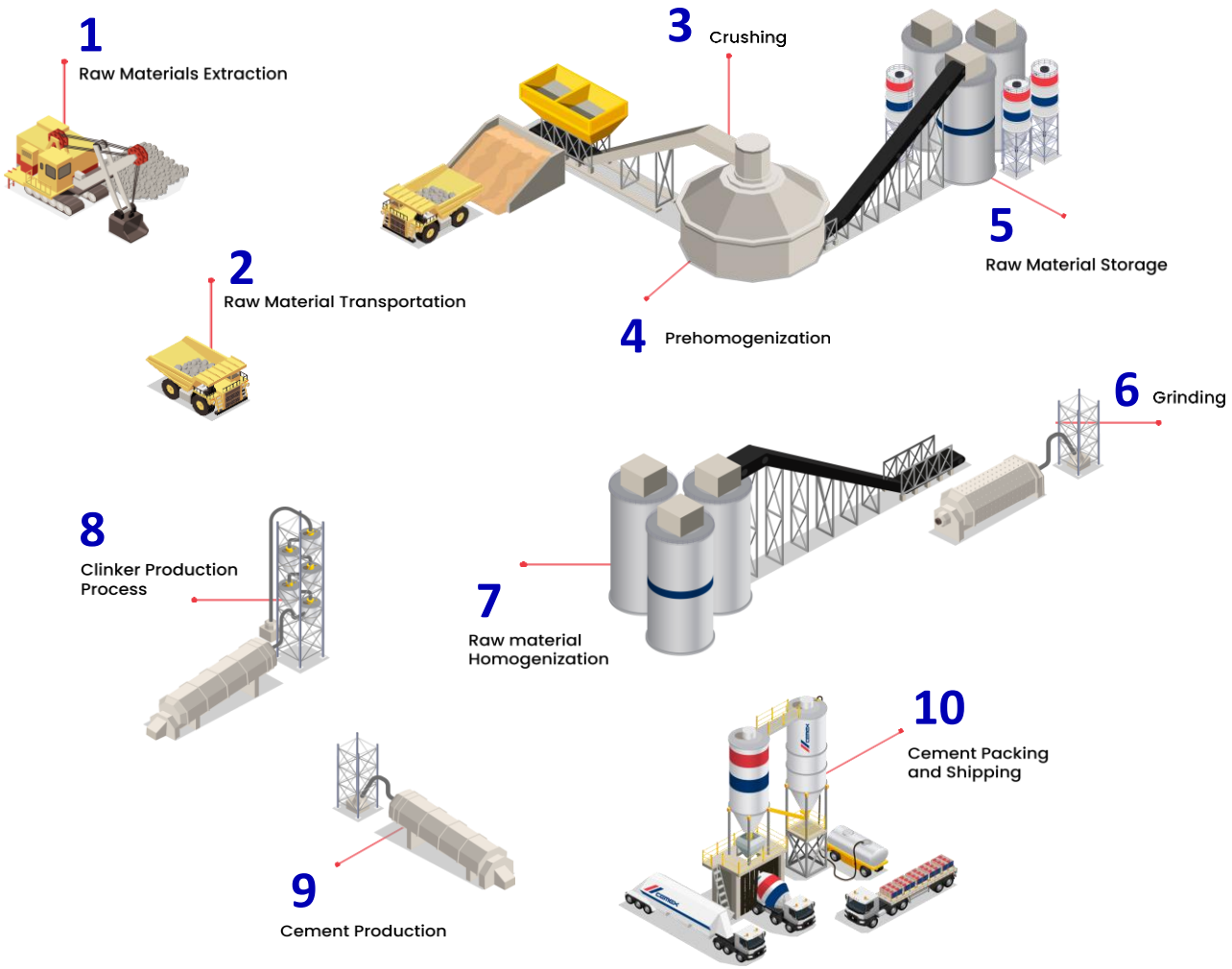

Figure 2. Cement Production

Truck transportation calculations are based on the weight of transported products per unit of clinker, cement or raw material and on the distances travelled per transported product. The volume of the materials was not considered because the majority of the transported materials are weight-limited and not volume-limited. In the Ecoinvent datasets, the allocation of truck's impact to the merchandise transported is done through at top-down approach, considering the total tonnes and total km transported. An average load factor is considered (5.79 t for 16-32 t trucks i.e. 39% average load rate and 15.96 t for > 32 t trucks, i.e. 71% average load factor) – this average load factor accounts for all truck journeys including empty backhauls and is used to allocate an impact per truck per km to at tonne transported over 1 km (one tkm). In effect, this approach allocates empty backhauls, on average, to at tkm of transported merchandise. Infrastructure, maintenance and end-of-life of roads and trucks are taken into consideration, assuming at 540,000 km lifetime per

truck.[3]

4.5.2 Module A3: Production

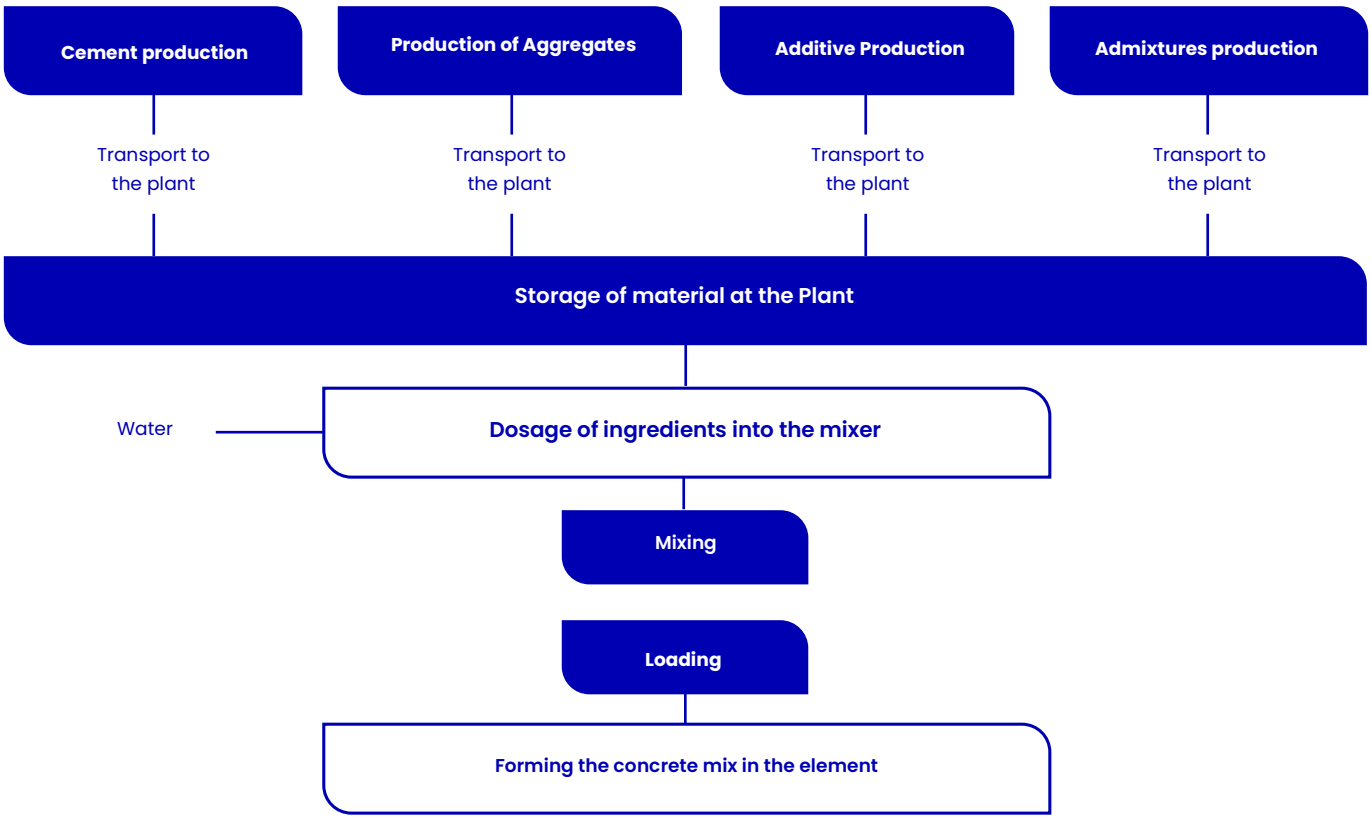

Figure 3. Concrete Production - Inputs and Processes System

After the materials for concrete are transferred to the concrete plant and stored, the substrates are weighed and mixed according to the process shown in Figure 3. The environmental impacts related to the ash have been considered based on economic allocation.

- **Reception and Storage of Raw Materials**: The process begins with the collection of necessary raw materials such as sand, gravel, water, cement, admixtures and additives.
- **Storage Silos**: Cement and fly-ash are received in bulk via tanker trucks and stored in silos equipped with filters and pressure control systems.
- **Weighing and Dosing**: The production coordinator uses the RMS (Ready Mixer Solution) program to automatically load the exact quantities of materials required for the specific mix. Aggregates are weighed and transported to the mixing machine, while water and additives are dosed and loaded directly into the mixer.
- **Mixing**: All materials are homogenized in the mixer to prepare the concrete, which is then ready to be discharged either directly at the construction site or into a transport vehicle.

[3] Information taken from the GCCA Industry EPD Tool for Cement and Concrete: LCA Model, North American version, 18 December 2023.

During the mixing phase, the different components come together to produce at uniform mass of concrete. Mixing time is registered from the moment material and water are poured into the cement mixer, and it begins rotating.

- **Transport:** While transporting concrete to site, the concrete mixer never stops revolving at speed of two to six rotations per minute. Transport from the concrete plant to the project site (A4) is not accounted for in this study, however, 30% of the truck diesel is allocated to manufacturing (A3) as per the PCR.

5. CUT-OFF CRITERIA

ISO 14044:2006 and the focus PCR requires the LCA model to contain at minimum of 95% of the total inflows (mass and energy) to the upstream and core modules which have been included in this study. The cut-off criteria were applied to all other processes unless otherwise noted above as follows. A 1% cut-off is considered for all renewable and non-renewable primary energy consumption and the total mass of inputs within a unit process where the total of the neglected inputs does not exceed 5%.

6. DATA SOURCES AND DATA QUALITY ASSESSMENT

- Raw material transport: Actual distance data is provided for each key bulk material. For materials with more than one supplier, the distance is weighted to obtain at single datum.
- Material loss: The Operations, Operational Excellence and Internal Control teams strive to maintain meticulous control of material inventory, performing several monitoring and management processes to limit material loss.

  According to these process controls, there are different permitted inventory deviations that adhere to the following maximums, which are used as material loss factors: 1% for cement and supplementary cementitious materials such as fly-ash, 2% for aggregates (gravel/sand) and 3% for additions and admixtures.
- Electricity: CEMEX Colombia, consumes electricity from various electricity sources and suppliers, including the national grid and self-generation. To calculate the site-specific electricity mix used in the EPD Tool, and align with the PCR, the site-specific electricity mix is distributed proportionally to the plant's energy consumption. The national electricity mix used is published by the authorities (UPME, Colombia's Mining and Energy Planning Unit).
- Ancillary OEM Materials: Due to technical limitations, lubricating oils, engine oils, & other consumable operations equipment maintenance (OEM) were not included within the study and are subject to the cut-off criteria.
- Fuel required for machinery: Fuel needs related to machinery and the low heating value were determined from direct calculations by CEMEX with actual accounting of consumption at the plant.
- Waste generation: Waste generation values are directly reported from CEMEX operations.
- Recovered energy: Thermal energy recovered from fuels produced from recycled materials. It was 31.0% average for cement plants Colombia in 2023.

- Recycled/reused material/components: CEMEX is committed to sustainability and circularity practices. Cemex uses post-industrial material waste as inputs to its products, to save virgin raw materials as well as reducing impacts within and outside its boundaries. Common recycled raw materials include fly-ash, ground granulated blast-furnace slag and recycled aggregates from industrial and construction and demolition waste. The quantities are directly reported by CEMEX operations. Specific batch/mix recycled content is readily available for Cemex' customers upon request.
- Direct A1 and A3 emissions accounting: The direct CO2 emissions of the plant (calcination process and fuel) were calculated following the methodology stipulated in "The Cement CO2 and Energy Protocol[4]" of the GCCA. Process emissions were estimated using method A2 - Analysis of the CO2 released from total carbon (TC) of raw meals. Emissions are from fuels burned on-site (kiln and non-kiln fuels) and calculated in the clinker phase in the Caracolito plant. These emissions were estimated using fossil fuel Emission Factors from the IPCC Energy Module - 2006, as well as Emission Factors for alternative fuels suggested by the GCCA[5]. AT third party audits these direct emissions annually. All other emissions were obtained from Ecoinvent Emission Factor data and the respective consumption recorded by the plant.
- Concrete mixing energy use: actual truck fuel use is considered (specific gal/m^3, by plant); the GCCA Industry EPD Tool allocates 30% of all mixing truck (fleet) energy use to Module A3, as defined by the PCR. The Operations and Operational Excellence teams within Cemex continuously monitor and track truck energy use for optimization and efficiency measures.
- Waste transport requirements**:** Transport distances use actual values between the plant location and the waste treatment location.

7. DATA QUALITY ASSESSMENT

Data quality/variability requirements, as specified in the PCR, are applied. This section describes the data quality achieved relative to the ISO 14044:2006 requirements. Data quality is judged based on its precision (measured, calculated, or estimated), completeness (e.g., unreported emissions), consistency (degree of uniformity of the methodology applied within at study serving as at data source) and representativeness (geographical, temporal, and technological).

7.1. Precision: Thorough measurement and calculation; the manufacturer collected and provided primary data on their annual production.

7.2. Completeness: All relevant specific processes, including inputs (raw materials, energy, and ancillary materials) and outputs (emissions and production volume) were considered and modeled to represent the specified and declared products. Most relevant background materials and processes were taken from Ecoinvent v3.5 LCI datasets and GCCA data where relatively recent region-specific electricity inputs were utilized.

[4] https://www.cement-co2-protocol.org/en/
[5] https://www.cement-co2-protocol.org/v3/Content/Internet_Manual/constants.htm

7.3. Consistency: To ensure consistency, the same modeling structure across the respective product systems was utilized for all inputs, which consisted of raw material inputs and ancillary material, energy flows, water resource inputs, product, and co-products outputs, returned and recovered Cement materials, emissions to air, water and soil, and waste recycling and treatment. The same background LCI datasets from the GCCA EPD Tool (which includes the Ecoinvent v3.5 database and GCCA data) were used across all product systems. Cross checks concerning the plausibility of mass and energy flows were continuously conducted. The LCA team conducted mass and energy balances at the plant and selected process level to maintain a high level of consistency.

7.4. Reproducibility: Internal reproducibility is possible since the data and the models are stored and available in a consolidated database with all inputs and all background reports (outputs) within Cemex' archives and within the GCCA's Industry EPD Tool. The Life Cycle Assessment and calculations for all foreground and background processes are contained within the Industry EPD Tool and replicable at any moment. A considerable level of transparency is provided throughout the detailed LCA report as the specifications and material quantity make-up for the declared products are presented and key primary and secondary LCI data sources are summarized. The provision of more detailed publicly accessible data to allow full external reproducibility was not possible due to reasons of confidentiality.

7.5. Life Cycle Assessment tool: The Global Cement and Concrete Association (GCCA) is at CEO-led industry initiative. Its members, Board of Directors, and Executive team are committed to sustainability – reducing the impacts of cement production and promoting the unique properties of concrete as at sustainable, durable and resilient building material – at material that will answer the needs of at growing and increasingly urban population that is set to exceed 9 billion people by 2050.

GCCA's Industry EPD Tool for Cement and Concrete is at web-based calculation tool for EPDs of clinker, cement, aggregates, concrete and precast elements, available in both International and North American versions. The latter complies with the latest North American cement and concrete PCRs registered at NSF International, namely PCR for Portland, Blended, Masonry, Mortar, and Plastic (Stucco) Cements (version 3.2, dated September 2021), the PCR for Concrete (version 3.2, dated February 2022) and the PCR for Precast Concrete (version 3.0, dated May 2021), all registered at NSF International.

The tool produces a background report with the complete set of input data and results of the specific product. This document is in the form of an Excel file that contains all the information required to produce an EPD and for a verifier to validate it.

7.6. Representativeness: The representativeness of the data is summarized as follows.

- Time related coverage of the manufacturing processes' primary collected data from 2023-01-01 to 2023-12-31.
- Upstream (background) LCI data was either the PCR specified default (if applicable) or more appropriate LCI datasets as found in the country-adjusted Ecoinvent v3.5 database.

- Geographical coverage for inputs required by the A3 facility is representative of its region of focus (Bogotá, Colombia); other upstream and background processes are based on US, North American, regional or global average data and adjusted to regional electricity mixes when relevant.

- Technological coverage is typical or average and specific to the participating facilities for all primary data.

8. ENVIRONMENTAL INDICATORS AND INVENTORY METRICS

Per the PCR, this EPD supports the life cycle impact assessment indicators and inventory metrics as listed in the tables below. As specified in the PCR, the most recent US EPA Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI), impact categories were utilized as they provide at North American context for the mandatory category indicators to be included in the EPD. Additionally, the PCR requires a set of inventory metrics to be reported with the LCIA indicators (see tables below). It should be noted that 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 any of the following categories.

9. LIMITATIONS

This EPD is at declaration of potential environmental impact and does not support or provide definitive comparisons of the environmental performance of specific products. Only EPDs prepared from cradle-to-grave life cycle results and based on the same function and reference service life and quantified by the same functional unit can be used to assist purchasers and users in making informed comparisons between products. LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks. Further, LCA offers a wide array of environmental impact indicators, and this EPD reports at collection of those, as specified by the PCR. In addition to the impact results, this EPD provides several metrics related to resource consumption and waste generation. While this data may be informational in other ways, it does not provide at measure of impact on the environment.

10. ENVIRONMENTAL INFORMATION

The results presented in this document cover **cradle-to-gate scope (A1-A3);** transport to site (A4), construction (A5), Use (B) or end of life (C) stages of the products are not included. The following tables present aggregated A1 to A3 results:

Strength <15 MPa

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	kg CO_2 eq.	kg CO_2 eq.	kg CFC 11 eq.	kg SO_2 eq.	kg N eq	kg O_3 eq.	kg Sb eq.	MJ, net calorific value
1-105-5-A-28-10-0-3-000	212	0.06	7.70E-06	1.15	0.22	24.63	1.06E-04	1,361.40
1-105-5-A-28-13-1-3-000	215	0.06	7.75E-06	1.16	0.22	24.88	1.06E-04	1,375.24
1-105-5-A-28-15-1-3-000	223	0.06	8.02E-06	1.19	0.23	25.52	1.08E-04	1,412.83
1-105-5-A-28-20-1-3-000	215	0.06	7.77E-06	1.16	0.22	24.88	1.06E-04	1,373.83
1-140-3-A-28-13-1-3-000	235	0.07	8.23E-06	1.30	0.24	28.17	1.60E-04	1,538.72
1-140-5-A-28-10-0-3-000	234	0.07	8.18E-06	1.24	0.24	26.46	1.10E-04	1,454.74
1-140-5-A-28-13-1-3-000	232	0.07	8.07E-06	1.22	0.24	26.10	1.07E-04	1,432.26
1-140-5-A-28-15-1-3-000	219	0.06	7.81E-06	1.17	0.22	24.86	1.03E-04	1,374.12
M-105-0-A-28-13-1-3-000	286	0.08	1.06E-05	1.52	0.30	32.14	1.36E-04	1,841.95
M-105-0-A-28-13-1-3-020	286	0.08	1.08E-05	1.52	0.30	32.00	1.35E-04	1,846.51
M-105-0-A-28-13-1-3-061	263	0.08	1.02E-05	1.43	0.28	30.15	1.49E-04	1,748.99
M-105-0-A-28-15-1-3-000	294	0.08	1.09E-05	1.56	0.31	32.87	1.38E-04	1,886.09
M-105-0-A-28-15-1-3-020	256	0.07	1.00E-05	1.40	0.27	29.59	1.30E-04	1,717.63
M-105-0-A-28-20-1-3-000	289	0.08	1.07E-05	1.54	0.30	32.47	1.37E-04	1,857.59
M-125-0-A-28-15-1-3-000	287	0.08	1.07E-05	1.54	0.30	32.40	1.38E-04	1,855.63
M-125-0-A-28-15-1-3-001	258	0.07	9.98E-06	1.42	0.27	30.07	1.32E-04	1,733.51
M-125-0-A-28-15-1-3-00S	271	0.08	1.03E-05	1.46	0.29	30.88	1.42E-04	1,778.54
M-125-0-A-28-15-1-3-060	283	0.08	1.07E-05	1.52	0.30	32.04	1.46E-04	1,844.75
M-140-0-A-28-13-1-3-000	270	0.07	1.03E-05	1.47	0.28	31.33	1.37E-04	1,797.83
M-140-0-A-28-13-1-3-01L	288	0.10	1.17E-05	1.55	0.32	32.00	2.20E-04	1,945.34
M-140-0-A-28-13-1-3-061	294	0.08	1.11E-05	1.56	0.31	32.78	1.57E-04	1,891.54
M-140-0-A-28-15-1-3-000	290	0.08	1.07E-05	1.55	0.30	32.60	1.38E-04	1,866.65
M-140-0-A-28-15-1-3-01K	301	0.08	1.10E-05	1.58	0.32	32.75	1.46E-04	1,924.89
M-140-0-A-28-15-1-3-03Z	313	0.09	1.14E-05	1.63	0.33	33.67	1.60E-04	1,977.59
M-140-0-A-28-20-1-3-060	305	0.08	1.13E-05	1.60	0.32	33.42	1.48E-04	1,923.03

ENVIRONMENTAL IMPACTS: 1 M³ OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	kg CO_2 eq.	kg CO_2 eq.	kg CFC 11 eq.	kg SO_2 eq.	kg N eq	kg O_3 eq.	kg Sb eq.	MJ, net calorific value
P-036-5-A-28-15-1-3-000	331	0.08	1.00E-05	1.60	0.33	33.36	1.16E-04	1,789.54
P-039-5-A-07-13-0-3-000	409	0.10	1.32E-05	1.91	0.41	38.68	1.19E-04	2,158.01
P-040-5-A-03-13-0-3-000	422	0.10	1.35E-05	1.97	0.43	39.85	1.21E-04	2,218.30
P-040-5-A-07-13-0-3-000	407	0.10	1.31E-05	1.91	0.41	38.76	1.19E-04	2,154.44
P-040-5-A-28-10-0-3-000	345	0.08	9.91E-06	1.65	0.34	34.23	1.12E-04	1,807.69
P-040-5-A-28-13-0-3-000	344	0.08	1.01E-05	1.65	0.34	34.28	1.14E-04	1,822.36
P-041-5-A-28-10-0-3-000	351	0.09	1.01E-05	1.68	0.35	34.81	1.15E-04	1,841.26
P-041-5-A-28-13-0-3-000	360	0.09	1.02E-05	1.71	0.36	35.25	1.14E-04	1,863.61
P-041-5-A-28-15-1-3-000	364	0.09	1.04E-05	1.74	0.36	36.01	1.16E-04	1,902.75
P-042-5-A-28-18-0-3-530	463	0.11	1.44E-05	2.12	0.46	42.64	1.23E-04	2,362.83
P-043-5-A-03-13-0-3-000	453	0.10	1.42E-05	2.10	0.46	42.21	1.22E-04	2,342.49
P-045-5-A-03-13-0-3-000	468	0.11	1.48E-05	2.16	0.47	43.50	1.27E-04	2,421.01
P-045-5-A-03-13-0-3-534	481	0.11	1.49E-05	2.19	0.48	43.87	1.23E-04	2,434.15
P-045-5-A-07-13-0-3-000	416	0.10	1.34E-05	1.95	0.42	39.42	1.20E-04	2,197.19
P-045-5-A-07-13-0-3-534	438	0.10	1.39E-05	2.03	0.44	41.20	1.24E-04	2,294.18
P-045-5-A-28-10-0-3-000	363	0.09	1.05E-05	1.73	0.36	35.78	1.17E-04	1,897.01
P-045-5-A-28-13-0-3-000	418	0.15	1.26E-05	1.33	0.46	27.29	1.34E-04	2,357.86
P-045-5-A-28-15-1-3-000	357	0.09	1.04E-05	1.71	0.35	35.44	1.15E-04	1,882.06
R-010-0-A-28-20-0-3-000	155	0.05	7.24E-06	0.94	0.17	20.63	1.02E-04	1,231.87
Acronyms	GWP-tot (Global warming potential) • GWP-bio (Global warming potential, biogenic) • ODP (Depletion potential of the stratospheric ozone layer) • AP (Acidification potential of soil and water sources) • EP (Eutrophication potential) • POCP (Photochemical oxidant creation potential) • ADPE (Abiotic depletion potential for non-fossil mineral resources) • ADPF (Abiotic depletion potential for fossil resources)							

RESOURCES USED: 1 M³ OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m³**
1-105-5-A-28-10-0-3-000	56.68	0.00	56.68	1,401.43	0.00	1,401.43	17.42	17.13	208.08	3.25
1-105-5-A-28-13-1-3-000	57.05	0.00	57.05	1,412.99	0.00	1,412.99	23.83	17.35	210.74	3.23
1-105-5-A-28-15-1-3-000	58.91	0.00	58.91	1,451.03	0.00	1,451.03	15.56	18.14	220.42	3.25

RESOURCES USED: 1 M³ OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m³**
1-105-5-A-28-20-1-3-000	57.41	0.00	57.41	1,413.58	0.00	1,413.58	26.96	17.51	212.68	3.24
1-140-3-A-28-13-1-3-000	62.53	0.00	62.53	1,594.31	0.00	1,594.31	45.50	18.50	224.77	2.40
1-140-5-A-28-10-0-3-000	61.78	0.00	61.78	1,493.04	0.00	1,493.04	9.07	19.45	236.25	3.26
1-140-5-A-28-13-1-3-000	61.35	0.00	61.35	1,472.74	0.00	1,472.74	20.78	19.33	234.83	3.24
1-140-5-A-28-15-1-3-000	58.11	0.00	58.11	1,410.66	0.00	1,410.66	30.55	18.12	220.19	3.08
M-105-0-A-28-13-1-3-000	71.01	0.00	71.01	1,841.95	0.00	1,841.95	14.90	23.29	282.98	3.18
M-105-0-A-28-13-1-3-020	70.59	0.00	70.59	1,846.51	0.00	1,846.51	15.04	23.12	280.89	3.18
M-105-0-A-28-13-1-3-061	67.10	0.00	67.10	1,748.99	0.00	1,748.99	24.44	20.86	253.39	3.16
M-105-0-A-28-15-1-3-000	72.89	0.00	72.89	1,886.09	0.00	1,886.09	0.59	24.06	292.26	3.22
M-105-0-A-28-15-1-3-020	63.84	0.00	63.84	1,717.63	0.00	1,717.63	31.20	20.15	244.83	3.13
M-105-0-A-28-20-1-3-000	71.98	0.00	71.98	1,857.59	0.00	1,857.59	8.48	23.71	288.04	3.19
M-125-0-A-28-15-1-3-000	71.45	0.00	71.45	1,855.63	0.00	1,855.63	12.96	23.41	284.45	3.20
M-125-0-A-28-15-1-3-001	64.70	0.00	64.70	1,733.51	0.00	1,733.51	31.81	20.47	248.67	3.12
M-125-0-A-28-15-1-3-00S	68.32	0.00	68.32	1,778.54	0.00	1,778.54	36.01	21.76	264.39	3.11
M-125-0-A-28-15-1-3-060	71.08	0.00	71.08	1,844.75	0.00	1,844.75	17.17	22.85	277.57	3.22
M-140-0-A-28-13-1-3-000	67.28	0.00	67.28	1,797.83	0.00	1,797.83	34.46	21.43	260.32	3.21
M-140-0-A-28-13-1-3-01L	79.27	0.00	79.27	1,924.26	21.08	1,945.34	35.30	22.56	274.05	3.30
M-140-0-A-28-13-1-3-061	74.33	0.00	74.33	1,891.54	0.00	1,891.54	5.85	23.91	290.45	3.25
M-140-0-A-28-15-1-3-000	72.06	0.00	72.06	1,866.65	0.00	1,866.65	14.72	23.71	288.10	3.19
M-140-0-A-28-15-1-3-01K	77.12	0.00	77.12	1,903.81	21.08	1,924.89	39.05	24.96	303.25	3.10
M-140-0-A-28-15-1-3-03Z	80.82	0.00	80.82	1,956.51	21.08	1,977.59	40.43	26.11	317.24	3.13
M-140-0-A-28-20-1-3-060	76.24	0.00	76.24	1,923.03	0.00	1,923.03	15.14	25.30	307.38	3.17
P-036-5-A-28-15-1-3-000	84.73	0.00	84.73	1,833.22	0.00	1,833.22	0.74	30.22	367.18	3.23
P-039-5-A-07-13-0-3-000	101.45	0.00	101.45	2,202.36	0.00	2,202.36	0.93	38.05	462.28	3.14
P-040-5-A-03-13-0-3-000	104.60	0.00	104.60	2,263.19	0.00	2,263.19	11.53	39.47	479.56	3.15
P-040-5-A-07-13-0-3-000	101.23	0.00	101.23	2,200.45	0.00	2,200.45	24.03	37.90	460.48	3.16
P-040-5-A-28-10-0-3-000	88.55	0.00	88.55	1,853.74	0.00	1,853.74	40.47	32.28	392.25	3.12
P-040-5-A-28-13-0-3-000	88.06	0.00	88.06	1,867.87	0.00	1,867.87	43.29	31.95	388.16	3.14
P-041-5-A-28-10-0-3-000	89.98	0.00	89.98	1,887.04	0.00	1,887.04	16.81	32.80	398.54	3.18
P-041-5-A-28-13-0-3-000	92.09	0.00	92.09	1,902.87	0.00	1,902.87	0.84	34.11	414.46	3.01

RESOURCES USED: 1 M^3 OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m^3**
P-041-5-A-28-15-1-3-000	92.92	0.00	92.92	1,949.34	0.00	1,949.34	54.08	34.18	415.22	3.17
P-042-5-A-28-18-0-3-530	114.09	0.00	114.09	2,410.12	0.00	2,410.12	1.08	43.92	533.56	3.14
P-043-5-A-03-13-0-3-000	111.74	0.00	111.74	2,386.95	0.00	2,386.95	24.07	42.86	520.77	3.09
P-045-5-A-03-13-0-3-000	115.28	0.00	115.28	2,466.41	0.00	2,466.41	10.78	44.28	537.96	3.20
P-045-5-A-03-13-0-3-534	118.11	0.00	118.11	2,478.80	0.00	2,478.80	1.13	45.94	558.18	3.06
P-045-5-A-07-13-0-3-000	103.08	0.00	103.08	2,242.82	0.00	2,242.82	13.02	38.71	470.26	3.17
P-045-5-A-07-13-0-3-534	107.80	0.00	107.80	2,338.21	0.00	2,338.21	4.24	40.80	495.70	3.24
P-045-5-A-28-10-0-3-000	92.78	0.00	92.78	1,943.06	0.00	1,943.06	19.67	34.07	413.90	3.19
P-045-5-A-28-13-0-3-000	81.42	1.07	82.49	2,401.57	1.44	2,403.00	40.12	26.33	278.72	3.27
P-045-5-A-28-15-1-3-000	90.93	0.00	90.93	1,924.97	0.00	1,924.97	51.46	33.34	405.10	3.11
R-010-0-A-28-20-0-3-000	39.99	0.00	39.99	1,231.87	0.00	1,231.87	12.81	10.15	123.29	2.78
Acronyms	PERE (Use of renewable primary energy excluding renewable primary energy resources used as raw materials) • PERM (Use of renewable primary energy resources used as raw materials) • PERT (Total use of renewable primary energy resources) • PENRE (Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials) • PENRM (Use of non-renewable primary energy resources used as raw materials) • PENRT (Total use of non-renewable primary energy resources) • SM (Use of secondary materials) • RSF (Use of renewable secondary fuels) • NRSF (Use of non-renewable secondary fuels) • NFW (Net use of fresh water)									

Strength 15 to 20 MPa

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	**kg CO_2 eq.**	**kg CO_2 eq.**	**kg CFC 11 eq.**	**kg SO_2 eq.**	**kg N eq**	**kg O_3 eq.**	**kg Sb eq.**	**MJ, net calorific value**
1-175-5-A-28-10-0-3-000	177	0.05	0.00	0.93	0.18	19.75	0.00	1,094.06
1-175-5-A-28-15-1-3-000	266	0.07	0.00	1.36	0.27	28.81	0.00	1,580.60
M-175-0-A-28-15-1-3-000	294	0.08	0.00	1.57	0.31	32.93	0.00	1,880.57
M-175-0-A-28-15-1-3-060	328	0.09	0.00	1.69	0.34	35.02	0.00	1,994.97
Acronyms	GWP-tot (Global warming potential) • GWP-bio (Global warming potential, biogenic) • ODP (Depletion potential of the stratospheric ozone layer) • AP (Acidification potential of soil and water sources) • EP (Eutrophication potential) • POCP (Photochemical oxidant creation potential) • ADPE (Abiotic depletion potential for non-fossil mineral resources) • ADPF (Abiotic depletion potential for fossil resources)							

RESOURCES USED: 1 M^3 OF READY-MIX CONCRETE										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m^3**
1-175-5-A-28-10-0-3-000	48.24	0.00	48.24	1,123.11	0.00	1,123.11	22.77	14.86	180.51	2.40
1-175-5-A-28-15-1-3-000	69.11	0.00	69.11	1,618.02	0.00	1,618.02	0.56	22.88	277.94	3.26
M-175-0-A-28-15-1-3-000	73.08	0.00	73.08	1,880.57	0.00	1,880.57	37.50	24.23	294.42	3.16
M-175-0-A-28-15-1-3-060	82.04	0.00	82.04	1,994.97	0.00	1,994.97	20.89	28.04	340.62	3.13
Acronyms	PERE (Use of renewable primary energy excluding renewable primary energy resources used as raw materials) • PERM (Use of renewable primary energy resources used as raw materials) • PERT (Total use of renewable primary energy resources) • PENRE (Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials) • PENRM (Use of non-renewable primary energy resources used as raw materials) • PENRT (Total use of non-renewable primary energy resources) • SM (Use of secondary materials) • RSF (Use of renewable secondary fuels) • NRSF (Use of non-renewable secondary fuels) • NFW (Net use of fresh water)									

Strength 20 to 35 MPa

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	**kg CO_2 eq.**	**kg CO_2 eq.**	**kg CFC 11 eq.**	**kg SO_2 eq.**	**kg N eq**	**kg O_3 eq.**	**kg Sb eq.**	**MJ, net calorific value**
1-210-3-A-03-13-1-3-000	374	0.09	1.26E-05	1.87	0.38	38.59	1.74E-04	2,157.12
1-210-3-A-03-13-1-3-001	371	0.09	1.25E-05	1.88	0.38	39.01	1.82E-04	2,168.88
1-210-3-A-07-13-1-3-000	294	0.08	1.07E-05	1.55	0.30	32.54	1.66E-04	1,838.33
1-210-3-A-07-15-1-3-000	310	0.08	1.13E-05	1.61	0.32	33.73	1.68E-04	1,912.56
1-210-3-A-28-10-0-3-000	297	0.08	9.55E-06	1.55	0.30	33.03	1.69E-04	1,783.25
1-210-3-A-28-13-1-3-000	286	0.08	9.24E-06	1.51	0.29	32.02	1.64E-04	1,729.82
1-210-3-A-28-13-1-3-061	277	0.08	9.20E-06	1.46	0.29	30.88	1.81E-04	1,685.56
1-210-3-A-28-15-1-3-000	308	0.08	9.79E-06	1.59	0.31	33.65	1.67E-04	1,817.53
1-210-3-A-28-15-1-3-001	326	0.09	1.02E-05	1.68	0.33	35.41	1.72E-04	1,902.40
1-210-3-A-28-15-1-3-004	286	0.08	9.25E-06	1.49	0.29	31.45	1.59E-04	1,750.40
1-210-3-A-28-15-1-3-01N	301	0.10	1.04E-05	1.57	0.32	32.45	2.30E-04	1,853.32
1-210-3-A-28-15-1-3-05I	315	0.10	1.11E-05	1.63	0.34	33.50	2.56E-04	1,929.29
1-210-3-A-28-20-1-3-000	307	0.08	9.72E-06	1.59	0.31	33.49	1.65E-04	1,805.51
1-210-5-A-03-13-1-3-000	323	0.08	1.13E-05	1.60	0.33	32.90	1.15E-04	1,862.01

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	**kg CO_2 eq.**	**kg CO_2 eq.**	**kg CFC 11 eq.**	**kg SO_2 eq.**	**kg N eq**	**kg O_3 eq.**	**kg Sb eq.**	**MJ, net calorific value**
1-210-5-A-03-15-1-3-000	321	0.08	1.14E-05	1.59	0.33	32.74	1.16E-04	1,860.63
1-210-5-A-07-13-1-3-000	275	0.07	1.02E-05	1.41	0.28	29.40	1.12E-04	1,675.88
1-210-5-A-07-15-1-3-000	281	0.07	1.04E-05	1.44	0.29	30.02	1.15E-04	1,709.32
1-210-5-A-07-20-1-3-000	322	0.08	1.13E-05	1.62	0.33	33.65	1.37E-04	1,893.96
1-210-5-A-14-13-1-3-000	272	0.07	8.87E-06	1.39	0.27	29.21	1.10E-04	1,587.37
1-210-5-A-28-10-0-3-000	269	0.07	8.80E-06	1.37	0.27	29.04	1.11E-04	1,578.24
1-210-5-A-28-13-1-3-000	268	0.07	8.71E-06	1.36	0.27	28.74	1.09E-04	1,560.54
1-210-5-A-28-13-1-3-001	285	0.07	9.01E-06	1.43	0.29	30.01	1.12E-04	1,620.00
1-210-5-A-28-15-1-3-000	278	0.07	9.06E-06	1.41	0.28	29.59	1.11E-04	1,611.94
1-210-5-A-28-15-1-3-001	309	0.08	9.64E-06	1.52	0.31	31.66	1.13E-04	1,715.64
1-210-5-A-28-15-1-3-004	280	0.08	9.01E-06	1.41	0.28	29.63	1.11E-04	1,650.90
1-210-5-A-28-15-1-3-05M	304	0.10	1.09E-05	1.53	0.33	31.14	2.03E-04	1,818.66
1-210-5-A-28-15-1-3-061	288	0.08	9.53E-06	1.45	0.30	30.21	1.33E-04	1,660.57
1-210-5-A-28-20-1-3-000	282	0.07	9.05E-06	1.42	0.28	29.85	1.10E-04	1,619.59
1-210-5-A-28-20-1-3-060	275	0.07	9.01E-06	1.39	0.28	29.23	1.20E-04	1,595.88
1-210-5-A-28-20-1-3-061	276	0.08	9.27E-06	1.41	0.29	29.62	1.33E-04	1,626.69
1-245-3-A-03-15-1-3-000	381	0.09	1.29E-05	1.90	0.39	39.05	1.74E-04	2,189.84
1-245-3-A-14-15-1-3-01M	368	0.10	1.15E-05	1.84	0.38	37.83	2.19E-04	2,099.02
1-245-3-A-28-15-1-3-000	336	0.09	1.06E-05	1.71	0.34	35.91	1.71E-04	1,939.61
1-245-3-A-28-15-1-3-061	354	0.10	1.12E-05	1.79	0.36	37.21	2.01E-04	2,022.32
1-245-3-A-28-20-1-3-000	317	0.08	1.00E-05	1.64	0.32	34.51	1.68E-04	1,859.32
1-245-5-A-03-13-1-3-000	377	0.09	1.27E-05	1.81	0.38	36.88	1.21E-04	2,076.40
1-245-5-A-03-15-1-3-000	364	0.09	1.24E-05	1.76	0.37	36.08	1.20E-04	2,032.09
1-245-5-A-07-13-1-3-000	315	0.08	1.12E-05	1.57	0.32	32.44	1.16E-04	1,837.11
1-245-5-A-14-15-1-3-000	289	0.08	9.39E-06	1.47	0.29	30.73	1.13E-04	1,672.70
1-245-5-A-28-10-0-3-000	315	0.08	9.74E-06	1.55	0.32	32.35	1.15E-04	1,744.64
1-245-5-A-28-13-1-3-000	608	0.16	1.93E-05	3.02	0.61	63.06	2.29E-04	3,419.31
1-245-5-A-28-15-1-3-000	292	0.08	9.47E-06	1.47	0.30	30.79	1.14E-04	1,678.17

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	**kg CO_2 eq.**	**kg CO_2 eq.**	**kg CFC 11 eq.**	**kg SO_2 eq.**	**kg N eq**	**kg O_3 eq.**	**kg Sb eq.**	**MJ, net calorific value**
1-245-5-A-28-20-1-3-000	275	0.07	9.05E-06	1.40	0.28	29.44	1.10E-04	1,605.88
1-280-3-A-03-13-1-3-000	485	0.12	1.55E-05	2.38	0.49	48.96	2.10E-04	2,695.03
1-280-3-A-03-15-1-3-000	380	0.10	1.34E-05	1.92	0.39	39.37	1.77E-04	2,231.66
1-280-3-A-03-15-1-3-001	400	0.10	1.38E-05	1.97	0.41	40.18	1.73E-04	2,282.16
1-280-3-A-03-15-1-3-01O	418	0.10	1.52E-05	2.07	0.43	41.46	1.76E-04	2,448.69
1-280-3-A-07-13-1-3-000	385	0.10	1.29E-05	1.91	0.39	39.41	1.74E-04	2,201.03
1-280-3-A-07-15-1-3-000	391	0.10	1.22E-05	1.93	0.40	39.52	1.59E-04	2,168.82
1-280-3-A-07-20-1-3-000	384	0.09	1.31E-05	1.91	0.39	39.08	1.69E-04	2,201.21
1-280-3-A-14-13-1-3-00N	391	0.11	1.22E-05	1.93	0.41	39.54	2.37E-04	2,155.24
1-280-3-A-14-20-1-3-000	366	0.09	1.09E-05	1.83	0.37	38.06	1.69E-04	2,033.27
1-280-3-A-28-10-0-3-000	325	0.09	1.01E-05	1.68	0.33	35.46	1.74E-04	1,903.87
1-280-3-A-28-13-1-3-000	330	0.09	1.02E-05	1.69	0.33	35.56	1.70E-04	1,907.03
1-280-3-A-28-13-1-3-013	332	0.09	1.02E-05	1.70	0.34	35.63	1.70E-04	1,913.46
1-280-3-A-28-15-1-3-000	326	0.09	1.03E-05	1.67	0.33	35.06	1.65E-04	1,898.43
1-280-3-A-28-15-1-3-001	341	0.09	1.05E-05	1.73	0.34	36.26	1.66E-04	1,946.15
1-280-3-A-28-20-1-3-000	330	0.09	1.03E-05	1.68	0.33	35.20	1.66E-04	1,900.48
1-280-3-A-28-20-1-3-061	336	0.09	1.08E-05	1.72	0.35	35.82	1.95E-04	1,949.67
1-280-5-A-03-13-1-3-000	378	0.09	1.29E-05	1.82	0.39	37.09	1.22E-04	2,100.11
1-280-5-A-03-15-1-3-000	367	0.09	1.27E-05	1.78	0.37	36.29	1.21E-04	2,058.22
1-280-5-A-03-15-1-3-001	373	0.09	1.27E-05	1.79	0.38	36.39	1.17E-04	2,061.22
1-280-5-A-03-20-1-3-000	389	0.09	1.34E-05	1.86	0.40	37.72	1.22E-04	2,148.65
1-280-5-A-07-13-1-3-000	354	0.09	1.20E-05	1.71	0.36	34.92	1.16E-04	1,971.16
1-280-5-A-07-15-1-3-000	359	0.09	1.22E-05	1.74	0.37	35.51	1.19E-04	2,003.14
1-280-5-A-07-15-1-3-001	387	0.09	1.29E-05	1.84	0.39	37.42	1.19E-04	2,110.56
1-280-5-A-07-20-1-3-000	351	0.09	1.21E-05	1.71	0.36	34.92	1.17E-04	1,979.55
1-280-5-A-14-15-1-3-000	361	0.09	1.07E-05	1.74	0.36	36.07	1.19E-04	1,932.35
1-280-5-A-28-10-0-3-000	298	0.08	9.39E-06	1.49	0.30	31.19	1.13E-04	1,685.63
1-280-5-A-28-13-1-3-000	304	0.08	9.56E-06	1.51	0.31	31.56	1.13E-04	1,706.95

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	**kg CO_2 eq.**	**kg CO_2 eq.**	**kg CFC 11 eq.**	**kg SO_2 eq.**	**kg N eq**	**kg O_3 eq.**	**kg Sb eq.**	**MJ, net calorific value**
1-280-5-A-28-13-1-3-001	317	0.08	9.74E-06	1.55	0.32	32.40	1.13E-04	1,744.96
1-280-5-A-28-13-1-3-004	329	0.09	9.96E-06	1.60	0.33	33.01	1.13E-04	1,822.02
1-280-5-A-28-15-1-3-000	308	0.08	9.85E-06	1.54	0.31	32.06	1.15E-04	1,746.40
1-280-5-A-28-15-1-3-001	315	0.08	9.77E-06	1.55	0.32	32.32	1.13E-04	1,745.90
1-280-5-A-28-15-1-3-002	319	0.08	1.04E-05	1.58	0.32	32.79	1.16E-04	1,805.48
1-280-5-A-28-15-1-3-004	316	0.08	9.96E-06	1.57	0.32	32.60	1.16E-04	1,814.45
1-280-5-A-28-15-1-3-009	341	0.09	1.03E-05	1.64	0.34	33.61	1.12E-04	1,867.92
1-280-5-A-28-15-1-3-00S	305	0.08	9.81E-06	1.53	0.31	31.78	1.26E-04	1,731.70
1-280-5-A-28-15-1-3-060	310	0.08	1.01E-05	1.55	0.32	32.31	1.28E-04	1,768.52
1-280-5-A-28-20-1-3-000	310	0.08	9.83E-06	1.54	0.31	32.21	1.15E-04	1,747.67
1-315-3-A-28-15-1-3-000	409	0.10	1.20E-05	2.01	0.41	41.66	1.80E-04	2,219.93
1-315-5-A-28-10-0-3-000	331	0.08	1.01E-05	1.62	0.33	33.80	1.18E-04	1,821.46
1-315-5-A-28-13-1-3-000	349	0.09	1.04E-05	1.69	0.35	34.98	1.17E-04	1,876.55
1-315-5-A-28-15-1-3-000	339	0.08	1.04E-05	1.66	0.34	34.31	1.16E-04	1,851.11
1-315-5-A-28-15-1-3-001	387	0.09	1.13E-05	1.83	0.39	37.45	1.19E-04	2,012.50
1-315-5-A-28-15-1-3-009	424	0.10	1.19E-05	1.95	0.42	39.50	1.16E-04	2,162.88
1-350-3-A-03-15-1-3-000	497	0.12	1.63E-05	2.39	0.51	48.14	1.86E-04	2,703.26
1-350-3-A-03-20-1-3-000	489	0.11	1.60E-05	2.34	0.50	47.09	1.81E-04	2,644.52
1-350-3-A-07-15-1-3-000	418	0.10	1.44E-05	2.06	0.43	41.92	1.78E-04	2,371.88
1-350-3-A-28-15-1-3-000	382	0.10	1.15E-05	1.90	0.38	39.45	1.74E-04	2,115.34
1-350-3-A-28-20-1-3-000	376	0.09	1.14E-05	1.87	0.38	38.99	1.73E-04	2,094.79
1-350-3-A-28-20-1-3-060	378	0.10	1.17E-05	1.88	0.38	39.11	1.90E-04	2,119.38
1-350-3-A-28-20-1-3-061	386	0.10	1.19E-05	1.92	0.40	39.71	2.04E-04	2,153.23
1-350-5-A-03-13-1-3-000	464	0.10	1.50E-05	2.14	0.47	42.79	1.21E-04	2,423.46
1-350-5-A-03-15-1-3-000	447	0.25	1.40E-05	2.10	0.45	42.07	1.14E-04	2,340.43
1-350-5-A-03-15-1-3-004	513	0.12	1.66E-05	2.36	0.52	46.87	1.32E-04	2,691.47
1-350-5-A-07-15-1-3-000	392	0.09	1.36E-05	1.90	0.40	38.31	1.23E-04	2,181.13
1-350-5-A-28-10-0-3-000	368	0.09	1.10E-05	1.77	0.37	36.54	1.21E-04	1,963.05

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	**kg CO_2 eq.**	**kg CO_2 eq.**	**kg CFC 11 eq.**	**kg SO_2 eq.**	**kg N eq**	**kg O_3 eq.**	**kg Sb eq.**	**MJ, net calorific value**
1-350-5-A-28-13-1-3-000	335	0.08	1.01E-05	1.63	0.33	33.96	1.14E-04	1,826.51
1-350-5-A-28-15-1-3-000	340	0.08	1.04E-05	1.66	0.34	34.44	1.17E-04	1,859.43
1-350-5-A-28-15-1-3-001	359	0.09	1.07E-05	1.73	0.36	35.61	1.15E-04	1,910.51
1-350-5-A-28-15-1-3-004	394	0.10	1.17E-05	1.87	0.39	38.26	1.24E-04	2,109.25
1-350-5-A-28-20-1-3-000	343	0.08	1.05E-05	1.67	0.34	34.66	1.17E-04	1,871.71
1-350-5-A-28-20-1-3-00S	371	0.09	1.12E-05	1.77	0.37	36.43	1.33E-04	1,968.69
2-280-5-A-28-15-1-3-001	356	0.09	1.06E-05	1.72	0.36	35.56	1.14E-04	1,909.42
3-280-3-A-28-13-1-3-000	352	0.09	1.06E-05	1.78	0.35	37.23	1.72E-04	1,987.62
3-280-3-A-28-15-1-3-000	349	0.09	1.06E-05	1.76	0.35	36.78	1.68E-04	1,970.55
3-280-3-A-28-15-1-3-001	393	0.10	1.16E-05	1.93	0.39	40.05	1.72E-04	2,142.54
3-280-3-A-28-20-1-3-000	328	0.09	1.02E-05	1.69	0.33	35.42	1.68E-04	1,905.30
3-280-3-A-28-65-1-3-04Z	416	0.11	1.32E-05	2.06	0.43	42.04	2.19E-04	2,308.99
3-280-3-A-28-65-1-3-061	422	0.11	1.33E-05	2.08	0.44	42.48	2.19E-04	2,327.62
3-280-5-A-28-13-1-3-001	379	0.09	1.10E-05	1.81	0.38	37.19	1.20E-04	1,981.79
3-280-5-A-28-13-1-3-013	329	0.08	9.96E-06	1.61	0.33	33.46	1.15E-04	1,798.85
3-280-5-A-28-15-1-3-009	332	0.09	1.01E-05	1.62	0.33	33.60	1.14E-04	1,857.20
3-280-5-A-28-15-1-3-013	321	0.08	9.87E-06	1.57	0.32	32.57	1.11E-04	1,762.03
3-280-5-A-28-15-1-3-072	331	0.08	1.01E-05	1.61	0.33	33.34	1.11E-04	1,799.23
7-210-3-A-28-15-1-3-000	309	0.08	9.77E-06	1.60	0.31	33.95	1.68E-04	1,826.24
7-210-3-A-28-15-1-3-061	314	0.09	1.02E-05	1.65	0.32	34.76	1.94E-04	1,886.93
7-210-3-A-28-20-1-3-061	308	0.09	1.01E-05	1.60	0.32	33.59	1.88E-04	1,831.25
7-210-5-A-28-15-1-3-000	270	0.07	8.89E-06	1.38	0.27	29.14	1.11E-04	1,586.66
7-210-5-A-28-15-1-3-004	280	0.08	9.15E-06	1.41	0.28	29.59	1.11E-04	1,660.96
7-210-5-A-28-15-1-3-01P	255	0.07	8.96E-06	1.32	0.27	27.66	1.38E-04	1,539.48
7-210-5-A-28-15-1-3-061	253	0.07	8.76E-06	1.31	0.26	27.40	1.26E-04	1,518.01
7-280-3-A-28-15-1-3-000	324	0.09	1.05E-05	1.67	0.33	35.11	1.71E-04	1,909.15
7-280-3-A-28-15-1-3-061	353	0.10	1.10E-05	1.79	0.36	37.28	2.00E-04	2,012.70
7-280-3-A-28-20-1-3-000	332	0.09	1.03E-05	1.70	0.34	35.60	1.69E-04	1,913.08

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	**kg CO_2 eq.**	**kg CO_2 eq.**	**kg CFC 11 eq.**	**kg SO_2 eq.**	**kg N eq**	**kg O_3 eq.**	**kg Sb eq.**	**MJ, net calorific value**
7-280-3-A-28-20-1-3-061	356	0.10	1.13E-05	1.80	0.37	37.32	1.97E-04	2,029.12
7-280-5-A-28-13-1-3-000	299	0.08	9.43E-06	1.49	0.30	31.07	1.11E-04	1,682.67
7-280-5-A-28-15-1-3-000	320	0.08	1.00E-05	1.58	0.32	32.90	1.16E-04	1,782.84
7-350-3-A-28-15-1-3-000	417	0.10	1.18E-05	2.04	0.42	42.23	1.77E-04	2,232.20
7-350-3-A-28-15-1-3-01P	358	0.10	1.14E-05	1.80	0.37	37.01	2.09E-04	2,027.91
7-350-3-A-28-15-1-3-061	374	0.10	1.16E-05	1.87	0.38	38.56	2.01E-04	2,090.22
7-350-3-A-28-20-1-3-061	338	0.09	1.10E-05	1.76	0.35	36.81	2.08E-04	2,000.76
7-350-5-A-28-15-1-3-000	348	0.09	1.06E-05	1.69	0.35	35.09	1.19E-04	1,892.28
7-350-5-A-28-15-1-3-01P	367	0.10	1.15E-05	1.78	0.38	36.39	1.62E-04	1,986.56
7-350-5-A-28-15-1-3-061	351	0.09	1.10E-05	1.71	0.36	35.18	1.45E-04	1,922.47
8-210-5-A-28-20-1-3-000	275	0.07	8.84E-06	1.39	0.28	29.12	1.08E-04	1,579.95
8-280-3-A-28-15-1-3-000	325	0.09	1.01E-05	1.66	0.33	34.88	1.66E-04	1,873.88
8-280-3-A-28-20-1-3-000	354	0.09	1.09E-05	1.78	0.36	37.14	1.70E-04	2,000.50
8-280-3-A-28-20-1-3-001	350	0.09	1.07E-05	1.76	0.35	36.87	1.67E-04	1,977.89
8-280-5-A-28-15-1-3-000	306	0.08	9.64E-06	1.52	0.31	31.74	1.12E-04	1,719.58
8-315-5-A-28-15-1-3-000	340	0.08	1.04E-05	1.66	0.34	34.33	1.14E-04	1,850.63
8-350-3-A-28-15-1-3-000	386	0.10	1.15E-05	1.93	0.39	40.14	1.78E-04	2,142.45
8-350-3-A-28-20-1-3-000	347	0.09	1.10E-05	1.77	0.35	36.79	1.69E-04	2,000.61
8-350-5-A-28-15-1-3-000	349	0.09	1.07E-05	1.70	0.35	35.29	1.20E-04	1,904.50
C-210-3-A-28-25-1-3-000	339	0.09	1.13E-05	1.73	0.35	36.03	1.92E-04	1,994.11
C-245-3-A-28-25-1-3-000	345	0.09	1.14E-05	1.74	0.36	36.10	1.88E-04	1,999.13
C-245-3-A-28-25-1-3-200	329	0.09	1.12E-05	1.69	0.35	34.97	2.19E-04	1,949.73
F-210-3-A-18-65-1-3-000	368	0.09	1.16E-05	1.85	0.38	37.96	1.51E-04	2,085.31
I-280-5-A-28-13-1-3-05A	368	0.12	1.27E-05	1.79	0.41	35.72	3.03E-04	2,030.76
I-280-5-A-28-15-1-3-000	312	0.08	9.44E-06	1.54	0.31	32.11	1.12E-04	1,711.24
I-280-5-A-28-15-1-3-01M	349	0.10	1.07E-05	1.68	0.36	34.34	1.59E-04	1,904.91
I-280-5-A-28-15-1-3-03Z	328	0.09	1.02E-05	1.60	0.33	33.02	1.40E-04	1,831.64
I-280-5-A-28-15-1-3-05H	350	0.10	1.10E-05	1.68	0.37	33.99	1.85E-04	1,910.39

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	**kg CO_2 eq.**	**kg CO_2 eq.**	**kg CFC 11 eq.**	**kg SO_2 eq.**	**kg N eq**	**kg O_3 eq.**	**kg Sb eq.**	**MJ, net calorific value**
I-350-5-A-28-15-1-3-01M	380	0.09	1.15E-05	1.81	0.38	36.72	1.15E-04	2,032.08
J-210-3-A-28-65-1-3-000	326	0.09	1.07E-05	1.65	0.34	34.48	1.83E-04	1,906.98
M-210-0-A-28-13-1-3-000	345	0.09	1.18E-05	1.77	0.36	37.04	1.46E-04	2,078.81
M-210-0-A-28-13-1-3-001	332	0.09	1.15E-05	1.70	0.34	35.44	1.40E-04	2,002.97
M-210-0-A-28-13-1-3-00S	347	0.09	1.21E-05	1.76	0.36	36.45	1.69E-04	2,068.98
M-210-0-A-28-13-1-3-01L	348	0.11	1.32E-05	1.78	0.39	36.12	2.51E-04	2,165.89
M-210-0-A-28-20-1-3-04A	406	0.13	1.54E-05	2.03	0.46	40.32	3.08E-04	2,398.27
M-280-0-A-28-20-1-3-000	413	0.10	1.25E-05	2.00	0.42	41.25	1.48E-04	2,255.40
M-280-0-A-28-20-1-3-061	399	0.10	1.26E-05	1.96	0.41	40.41	1.80E-04	2,237.87
O-210-3-A-18-15-1-3-000	323	0.08	1.10E-05	1.65	0.33	34.46	1.66E-04	1,917.08
O-210-3-A-18-15-1-3-01P	331	0.09	1.15E-05	1.69	0.35	35.15	2.03E-04	1,971.93
O-210-3-A-18-15-1-3-061	327	0.09	1.13E-05	1.65	0.34	34.33	1.87E-04	1,925.89
O-210-3-A-18-18-1-3-000	314	0.08	1.12E-05	1.62	0.32	33.92	1.66E-04	1,912.32
O-210-3-A-18-18-1-3-061	318	0.09	1.16E-05	1.64	0.34	33.89	1.96E-04	1,934.43
O-210-3-A-18-20-1-3-000	313	0.08	1.12E-05	1.62	0.32	33.80	1.63E-04	1,912.55
O-210-3-A-18-23-1-3-000	336	0.09	1.17E-05	1.71	0.35	35.59	1.67E-04	1,999.66
O-210-5-A-18-13-1-3-000	280	0.07	1.00E-05	1.41	0.29	29.44	1.10E-04	1,666.61
O-210-5-A-18-13-1-3-009	298	0.08	1.05E-05	1.48	0.30	30.57	1.12E-04	1,775.06
O-210-5-A-18-13-1-3-060	309	0.08	1.10E-05	1.52	0.32	31.31	1.23E-04	1,782.42
O-210-5-A-18-15-1-3-000	289	0.07	1.04E-05	1.46	0.30	30.25	1.12E-04	1,715.43
O-210-5-A-18-15-1-3-001	295	0.08	1.06E-05	1.48	0.30	30.61	1.13E-04	1,739.39
O-210-5-A-20-13-1-3-000	282	0.07	9.36E-06	1.42	0.29	29.74	1.11E-04	1,633.05
O-245-5-A-18-13-1-3-000	297	0.08	1.05E-05	1.50	0.30	31.23	1.16E-04	1,758.84
O-280-3-A-18-15-1-3-000	343	0.09	1.20E-05	1.75	0.35	36.23	1.70E-04	2,041.41
O-280-3-A-18-18-1-3-000	349	0.09	1.22E-05	1.77	0.36	36.59	1.68E-04	2,065.37
O-280-3-A-18-18-1-3-001	356	0.09	1.23E-05	1.78	0.37	36.54	1.58E-04	2,062.41
O-280-3-A-18-20-1-3-000	357	0.09	1.23E-05	1.80	0.37	37.21	1.80E-04	2,091.98
O-280-3-A-18-23-1-3-000	361	0.09	1.26E-05	1.82	0.37	37.40	1.68E-04	2,114.97

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	**kg CO_2 eq.**	**kg CO_2 eq.**	**kg CFC 11 eq.**	**kg SO_2 eq.**	**kg N eq**	**kg O_3 eq.**	**kg Sb eq.**	**MJ, net calorific value**
O-280-5-A-18-13-1-3-000	325	0.08	1.14E-05	1.61	0.33	33.05	1.16E-04	1,870.01
O-280-5-A-18-15-1-3-000	321	0.08	1.12E-05	1.58	0.33	32.47	1.14E-04	1,833.87
O-315-3-A-18-18-1-3-000	375	0.09	1.29E-05	1.87	0.38	38.59	1.71E-04	2,173.33
O-350-3-A-18-13-1-3-000	340	0.09	1.14E-05	1.74	0.35	36.13	1.72E-04	1,997.04
O-350-3-A-18-18-1-3-000	363	0.09	1.21E-05	1.82	0.37	37.73	1.69E-04	2,098.57
O-350-3-A-18-20-1-3-000	383	0.10	1.26E-05	1.91	0.39	39.30	1.69E-04	2,183.51
O-350-3-A-18-23-1-3-000	341	0.09	1.18E-05	1.74	0.35	36.04	1.67E-04	2,022.92
Q-210-5-A-28-15-1-4-547	333	0.13	1.14E-05	1.02	0.38	21.39	1.32E-04	2,096.89
Q-280-3-A-28-13-1-3-501	448	0.17	1.57E-05	1.54	0.54	29.91	2.22E-04	2,933.59
Q-280-3-A-28-13-1-3-63M	353	0.09	1.05E-05	1.77	0.35	37.11	1.89E-04	1,967.51
Q-350-3-A-28-15-1-3-60G	477	0.19	1.66E-05	1.61	0.57	31.26	2.29E-04	3,093.82
T-210-3-A-28-18-1-3-665	340	0.09	1.04E-05	1.72	0.35	35.99	1.87E-04	1,925.51
T-210-3-A-28-20-1-3-000	322	0.09	1.02E-05	1.65	0.33	34.55	1.77E-04	1,870.06
T-210-5-A-28-18-1-3-665	290	0.08	9.43E-06	1.47	0.30	30.79	1.25E-04	1,675.57
T-210-5-A-28-20-1-3-000	299	0.08	9.56E-06	1.49	0.30	31.04	1.24E-04	1,688.08
T-245-3-A-28-20-1-3-000	330	0.09	1.05E-05	1.70	0.34	35.52	1.82E-04	1,926.21
T-245-5-A-28-20-1-3-000	306	0.08	9.90E-06	1.52	0.31	31.68	1.25E-04	1,731.54
T-280-3-A-28-20-1-3-000	337	0.09	1.07E-05	1.71	0.34	35.82	1.81E-04	1,944.31
T-280-5-A-28-18-1-3-665	302	0.08	9.67E-06	1.51	0.31	31.46	1.26E-04	1,709.08
T-280-5-A-28-20-1-3-000	313	0.08	1.00E-05	1.55	0.32	32.12	1.25E-04	1,753.78
T-280-5-A-28-20-1-3-200	316	0.08	1.01E-05	1.56	0.32	32.46	1.27E-04	1,768.11
T-350-3-A-28-20-1-3-000	382	0.10	1.15E-05	1.88	0.39	38.84	1.78E-04	2,093.63
T-350-5-A-28-18-1-3-665	332	0.09	1.05E-05	1.64	0.34	34.05	1.31E-04	1,851.41
T-350-5-A-28-20-1-3-000	359	0.09	1.11E-05	1.74	0.36	35.74	1.32E-04	1,942.19
T-350-5-A-28-20-1-3-464	330	0.10	1.16E-05	1.63	0.36	32.80	2.25E-04	1,868.31
V-210-3-A-03-65-1-3-000	482	0.11	1.62E-05	2.31	0.50	46.29	1.87E-04	2,635.97
V-210-3-A-28-65-1-3-000	354	0.09	1.14E-05	1.78	0.36	36.85	1.72E-04	2,024.41
V-210-3-A-28-65-1-3-012	387	0.11	1.32E-05	1.93	0.42	39.02	2.62E-04	2,201.31

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	**kg CO_2 eq.**	**kg CO_2 eq.**	**kg CFC 11 eq.**	**kg SO_2 eq.**	**kg N eq**	**kg O_3 eq.**	**kg Sb eq.**	**MJ, net calorific value**
V-210-3-A-28-65-1-3-021	392	0.10	1.25E-05	1.93	0.40	39.72	1.81E-04	2,192.69
V-245-3-A-28-65-1-3-000	348	0.09	1.12E-05	1.76	0.36	36.19	1.65E-04	1,988.88
V-280-3-A-28-65-1-3-000	373	0.10	1.18E-05	1.86	0.38	38.41	1.83E-04	2,103.86
V-280-3-A-28-65-1-3-001	390	0.10	1.22E-05	1.92	0.40	39.44	1.76E-04	2,156.49
V-315-3-A-28-65-1-3-000	407	0.10	1.25E-05	2.01	0.41	41.12	1.80E-04	2,236.17
V-350-3-A-03-65-1-3-000	376	0.09	1.36E-05	1.90	0.39	39.10	1.73E-04	2,245.51
V-350-3-A-28-65-1-3-000	419	0.10	1.30E-05	2.06	0.43	42.11	1.84E-04	2,300.86
V-350-3-A-28-65-1-3-001	441	0.11	1.35E-05	2.14	0.45	43.60	1.87E-04	2,379.43
V-350-3-A-28-65-1-3-012	441	0.13	1.48E-05	2.17	0.48	43.36	2.91E-04	2,446.49
1-210-3-A-03-13-1-3-000	374	0.09	1.26E-05	1.87	0.38	38.59	1.74E-04	2,157.12
Acronyms	GWP-tot (Global warming potential) • GWP-bio (Global warming potential, biogenic) • ODP (Depletion potential of the stratospheric ozone layer) • AP (Acidification potential of soil and water sources) • EP (Eutrophication potential) • POCP (Photochemical oxidant creation potential) • ADPE (Abiotic depletion potential for non-fossil mineral resources) • ADPF (Abiotic depletion potential for fossil resources)							

RESOURCES USED: 1 M^3 OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m^3**
1-210-3-A-03-13-1-3-000	93.82	0.00	93.82	2,211.92	0.00	2,211.92	0.80	32.81	398.68	2.45
1-210-3-A-03-13-1-3-001	93.48	0.00	93.48	2,228.95	0.00	2,228.95	19.24	32.21	391.37	2.56
1-210-3-A-07-13-1-3-000	75.43	0.00	75.43	1,893.41	0.00	1,893.41	20.80	24.32	295.52	2.45
1-210-3-A-07-15-1-3-000	78.51	0.00	78.51	1,966.18	0.00	1,966.18	6.60	25.67	311.93	2.49
1-210-3-A-28-10-0-3-000	77.34	0.00	77.34	1,839.09	0.00	1,839.09	5.88	25.21	306.31	2.48
1-210-3-A-28-13-1-3-000	74.58	0.00	74.58	1,784.68	0.00	1,784.68	38.52	24.16	293.58	2.40
1-210-3-A-28-13-1-3-061	73.86	0.00	73.86	1,739.57	0.00	1,739.57	64.78	23.12	280.89	2.34
1-210-3-A-28-15-1-3-000	79.56	0.00	79.56	1,871.80	0.00	1,871.80	22.61	26.44	321.23	2.43
1-210-3-A-28-15-1-3-001	84.12	0.00	84.12	1,957.78	0.00	1,957.78	26.22	28.35	344.41	2.49
1-210-3-A-28-15-1-3-004	75.59	0.00	75.59	1,782.39	21.08	1,803.47	67.36	24.04	292.08	2.32

RESOURCES USED: 1 M³ OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m³**
1-210-3-A-28-15-1-3-01N	84.23	0.00	84.23	1,886.50	21.08	1,907.58	70.00	25.01	303.82	2.45
1-210-3-A-28-15-1-3-05I	89.30	0.00	89.30	1,960.70	21.08	1,981.78	73.93	26.27	319.12	2.51
1-210-3-A-28-20-1-3-000	79.51	0.00	79.51	1,858.58	0.00	1,858.58	26.09	26.54	322.44	2.41
1-210-5-A-03-13-1-3-000	81.29	0.00	81.29	1,900.87	0.00	1,900.87	17.10	28.50	346.30	3.22
1-210-5-A-03-15-1-3-000	80.69	0.00	80.69	1,898.99	0.00	1,898.99	5.24	28.17	342.27	3.24
1-210-5-A-07-13-1-3-000	70.30	0.00	70.30	1,715.01	0.00	1,715.01	16.37	23.32	283.35	3.25
1-210-5-A-07-15-1-3-000	71.66	0.00	71.66	1,747.12	0.00	1,747.12	0.58	23.85	289.82	3.28
1-210-5-A-07-20-1-3-000	81.65	0.00	81.65	1,940.16	0.00	1,940.16	0.69	27.97	339.85	3.02
1-210-5-A-14-13-1-3-000	70.54	0.00	70.54	1,625.31	0.00	1,625.31	36.65	23.74	288.41	3.15
1-210-5-A-28-10-0-3-000	69.97	0.00	69.97	1,616.80	0.00	1,616.80	20.49	23.36	283.87	3.22
1-210-5-A-28-13-1-3-000	69.59	0.00	69.59	1,598.63	0.00	1,598.63	30.16	23.34	283.58	3.15
1-210-5-A-28-13-1-3-001	73.99	0.00	73.99	1,658.33	0.00	1,658.33	0.62	25.34	307.92	3.16
1-210-5-A-28-15-1-3-000	71.82	0.00	71.82	1,649.92	0.00	1,649.92	24.82	24.29	295.14	3.19
1-210-5-A-28-15-1-3-001	78.93	0.00	78.93	1,751.66	0.00	1,751.66	0.68	27.72	336.83	3.11
1-210-5-A-28-15-1-3-004	74.21	0.00	74.21	1,669.97	21.08	1,691.05	37.84	24.49	297.51	3.22
1-210-5-A-28-15-1-3-05M	85.40	0.00	85.40	1,833.95	21.08	1,855.03	0.63	25.72	312.52	3.42
1-210-5-A-28-15-1-3-061	75.68	0.00	75.68	1,698.27	0.00	1,698.27	11.54	25.18	305.89	3.23
1-210-5-A-28-20-1-3-000	72.93	0.00	72.93	1,656.81	0.00	1,656.81	30.08	24.91	302.59	3.16
1-210-5-A-28-20-1-3-060	71.96	0.00	71.96	1,632.37	0.00	1,632.37	36.99	24.05	292.24	3.14
1-210-5-A-28-20-1-3-061	73.20	0.00	73.20	1,664.60	0.00	1,664.60	36.95	23.96	291.14	3.22
1-245-3-A-03-15-1-3-000	95.18	0.00	95.18	2,244.32	0.00	2,244.32	0.82	33.45	406.38	2.46
1-245-3-A-14-15-1-3-01M	99.16	0.00	99.16	2,134.24	21.08	2,155.32	0.80	32.65	396.66	2.48
1-245-3-A-28-15-1-3-000	86.26	0.00	86.26	1,995.10	0.00	1,995.10	8.47	29.42	357.38	2.45
1-245-3-A-28-15-1-3-061	92.27	0.00	92.27	2,080.94	0.00	2,080.94	0.76	31.00	376.60	2.47
1-245-3-A-28-20-1-3-000	81.95	0.00	81.95	1,915.13	0.00	1,915.13	42.49	27.53	334.48	2.40
1-245-5-A-03-13-1-3-000	93.59	0.00	93.59	2,114.91	0.00	2,114.91	0.84	34.20	415.57	3.21
1-245-5-A-03-15-1-3-000	90.68	0.00	90.68	2,069.59	0.00	2,069.59	4.22	32.83	398.89	3.20
1-245-5-A-07-13-1-3-000	79.50	0.00	79.50	1,875.16	0.00	1,875.16	9.27	27.60	335.39	3.24
1-245-5-A-14-15-1-3-000	74.57	0.00	74.57	1,709.75	0.00	1,709.75	39.16	25.54	310.33	3.19
1-245-5-A-28-10-0-3-000	80.74	0.00	80.74	1,781.98	0.00	1,781.98	0.70	28.45	345.65	3.20

RESOURCES USED: 1 M³ OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m³**
1-245-5-A-28-13-1-3-000	156.17	0.00	156.17	3,500.03	0.00	3,500.03	6.26	54.17	658.10	6.49
1-245-5-A-28-15-1-3-000	75.17	0.00	75.17	1,716.44	0.00	1,716.44	17.85	25.75	312.91	3.21
1-245-5-A-28-20-1-3-000	71.27	0.00	71.27	1,643.56	0.00	1,643.56	37.21	24.09	292.63	3.16
1-280-3-A-03-13-1-3-000	120.53	0.00	120.53	2,763.98	0.00	2,763.98	1.07	43.77	531.83	2.80
1-280-3-A-03-15-1-3-000	94.92	0.00	94.92	2,288.89	0.00	2,288.89	31.45	33.13	402.52	2.44
1-280-3-A-03-15-1-3-001	99.07	0.00	99.07	2,335.56	0.00	2,335.56	0.87	35.39	429.92	2.40
1-280-3-A-03-15-1-3-01O	104.13	0.00	104.13	2,480.67	21.08	2,501.75	0.90	36.67	445.47	2.46
1-280-3-A-07-13-1-3-000	96.39	0.00	96.39	2,256.02	0.00	2,256.02	12.05	34.05	413.73	2.43
1-280-3-A-07-15-1-3-000	97.52	0.00	97.52	2,220.72	0.00	2,220.72	15.00	35.18	427.39	2.38
1-280-3-A-07-20-1-3-000	95.68	0.00	95.68	2,252.92	0.00	2,252.92	29.11	33.98	412.85	2.39
1-280-3-A-14-13-1-3-00N	104.06	0.00	104.06	2,206.16	0.00	2,206.16	25.91	35.14	426.99	2.50
1-280-3-A-14-20-1-3-000	93.35	0.00	93.35	2,086.86	0.00	2,086.86	50.96	33.07	401.78	2.34
1-280-3-A-28-10-0-3-000	83.76	0.00	83.76	1,962.02	0.00	1,962.02	37.96	28.07	341.06	2.48
1-280-3-A-28-13-1-3-000	85.01	0.00	85.01	1,962.05	0.00	1,962.05	32.60	28.93	351.48	2.42
1-280-3-A-28-13-1-3-013	85.68	0.00	85.68	1,968.21	0.00	1,968.21	45.49	29.23	355.14	2.39
1-280-3-A-28-15-1-3-000	83.50	0.00	83.50	1,949.94	0.00	1,949.94	36.62	28.38	344.82	2.43
1-280-3-A-28-15-1-3-001	87.41	0.00	87.41	1,996.68	0.00	1,996.68	28.57	30.26	367.62	2.42
1-280-3-A-28-20-1-3-000	84.59	0.00	84.59	1,953.15	0.00	1,953.15	35.24	28.95	351.70	2.37
1-280-3-A-28-20-1-3-061	88.10	0.00	88.10	2,003.58	0.00	2,003.58	27.74	29.26	355.48	2.49
1-280-5-A-03-13-1-3-000	93.55	0.00	93.55	2,138.04	0.00	2,138.04	6.90	34.11	414.45	3.23
1-280-5-A-03-15-1-3-000	91.01	0.00	91.01	2,096.44	0.00	2,096.44	11.56	32.93	400.08	3.23
1-280-5-A-03-15-1-3-001	92.41	0.00	92.41	2,097.38	0.00	2,097.38	29.36	33.93	412.29	3.07
1-280-5-A-03-20-1-3-000	95.79	0.00	95.79	2,186.23	0.00	2,186.23	0.86	35.20	427.62	3.21
1-280-5-A-07-13-1-3-000	88.21	0.00	88.21	2,007.58	0.00	2,007.58	5.51	31.92	387.79	3.11
1-280-5-A-07-15-1-3-000	89.28	0.00	89.28	2,040.81	0.00	2,040.81	9.82	32.25	391.82	3.18
1-280-5-A-07-15-1-3-001	95.75	0.00	95.75	2,146.84	0.00	2,146.84	0.87	35.41	430.19	3.09
1-280-5-A-07-20-1-3-000	87.39	0.00	87.39	2,016.46	0.00	2,016.46	19.32	31.42	381.75	3.16
1-280-5-A-14-15-1-3-000	91.53	0.00	91.53	1,970.33	0.00	1,970.33	25.39	33.47	406.68	3.17
1-280-5-A-28-10-0-3-000	76.80	0.00	76.80	1,723.60	0.00	1,723.60	23.26	26.63	323.56	3.16
1-280-5-A-28-13-1-3-000	78.12	0.00	78.12	1,746.89	0.00	1,746.89	29.59	27.22	330.71	3.19

FUTURO EN ACCIÓN

RESOURCES USED: 1 M³ OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m³**
1-280-5-A-28-13-1-3-001	81.16	0.00	81.16	1,783.55	0.00	1,783.55	18.31	28.73	349.07	3.13
1-280-5-A-28-13-1-3-004	85.35	0.00	85.35	1,834.63	21.08	1,855.71	29.18	30.07	365.28	3.01
1-280-5-A-28-15-1-3-000	78.57	0.00	78.57	1,782.54	0.00	1,782.54	33.34	27.41	332.99	3.18
1-280-5-A-28-15-1-3-001	80.54	0.00	80.54	1,782.91	0.00	1,782.91	24.72	28.47	345.93	3.12
1-280-5-A-28-15-1-3-002	81.01	0.00	81.01	1,841.05	0.00	1,841.05	18.20	28.53	346.61	3.18
1-280-5-A-28-15-1-3-004	82.10	0.00	82.10	1,829.11	21.08	1,850.19	48.06	28.19	342.52	3.17
1-280-5-A-28-15-1-3-009	87.42	0.00	87.42	1,871.26	21.08	1,892.34	14.83	31.39	381.39	2.80
1-280-5-A-28-15-1-3-00S	79.08	0.00	79.08	1,769.49	0.00	1,769.49	41.78	27.16	330.04	3.15
1-280-5-A-28-15-1-3-060	79.97	0.00	79.97	1,804.89	0.00	1,804.89	22.87	27.43	333.24	3.26
1-280-5-A-28-20-1-3-000	79.47	0.00	79.47	1,785.78	0.00	1,785.78	27.30	27.80	337.74	3.20
1-315-3-A-28-15-1-3-000	103.46	0.00	103.46	2,275.42	0.00	2,275.42	0.91	37.33	453.52	2.50
1-315-5-A-28-10-0-3-000	84.16	0.00	84.16	1,859.95	0.00	1,859.95	24.58	29.92	363.56	3.22
1-315-5-A-28-13-1-3-000	88.60	0.00	88.60	1,915.93	0.00	1,915.93	24.41	32.12	390.20	3.17
1-315-5-A-28-15-1-3-000	86.12	0.00	86.12	1,889.35	0.00	1,889.35	40.13	30.99	376.56	3.16
1-315-5-A-28-15-1-3-001	97.07	0.00	97.07	2,047.30	0.00	2,047.30	0.89	36.30	441.03	3.07
1-315-5-A-28-15-1-3-009	106.55	0.00	106.55	2,159.32	21.08	2,180.40	1.00	40.73	494.84	2.58
1-350-3-A-03-15-1-3-000	121.79	0.00	121.79	2,757.33	0.00	2,757.33	12.89	45.68	554.98	2.49
1-350-3-A-03-20-1-3-000	119.80	0.00	119.80	2,696.47	0.00	2,696.47	1.10	45.02	546.97	2.43
1-350-3-A-07-15-1-3-000	103.64	0.00	103.64	2,425.78	0.00	2,425.78	8.05	37.33	453.58	2.45
1-350-3-A-28-15-1-3-000	97.00	0.00	97.00	2,169.74	0.00	2,169.74	16.35	34.49	419.04	2.44
1-350-3-A-28-20-1-3-000	95.44	0.00	95.44	2,148.58	0.00	2,148.58	29.16	33.82	410.86	2.42
1-350-3-A-28-20-1-3-060	96.61	0.00	96.61	2,175.32	0.00	2,175.32	0.82	33.52	407.22	2.51
1-350-3-A-28-20-1-3-061	99.75	0.00	99.75	2,208.42	0.00	2,208.42	5.66	34.42	418.23	2.53
1-350-5-A-03-13-1-3-000	112.29	0.00	112.29	2,443.75	0.00	2,443.75	1.07	43.79	532.01	2.70
1-350-5-A-03-15-1-3-000	108.58	0.00	108.58	2,376.74	0.00	2,376.74	9.60	42.00	510.24	3.10
1-350-5-A-03-15-1-3-004	125.87	0.00	125.87	2,705.23	21.08	2,726.31	1.19	48.42	588.28	3.11
1-350-5-A-07-15-1-3-000	96.79	0.00	96.79	2,219.82	0.00	2,219.82	22.49	35.58	432.34	3.21
1-350-5-A-28-10-0-3-000	93.00	0.00	93.00	2,001.21	0.00	2,001.21	0.83	34.05	413.73	3.21
1-350-5-A-28-13-1-3-000	85.03	0.00	85.03	1,863.94	0.00	1,863.94	59.64	30.60	371.77	3.11
1-350-5-A-28-15-1-3-000	86.41	0.00	86.41	1,896.90	0.00	1,896.90	27.83	31.09	377.68	3.17

FUTURO EN ACCIÓN

RESOURCES USED: 1 M³ OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m³**
1-350-5-A-28-15-1-3-001	90.91	0.00	90.91	1,946.67	0.00	1,946.67	42.68	33.47	406.60	3.05
1-350-5-A-28-15-1-3-004	100.18	0.00	100.18	2,125.04	21.08	2,146.12	0.89	36.52	443.67	3.20
1-350-5-A-28-20-1-3-000	86.98	0.00	86.98	1,909.30	0.00	1,909.30	43.11	31.40	381.48	3.15
1-350-5-A-28-20-1-3-00S	94.59	0.00	94.59	2,007.15	0.00	2,007.15	0.84	34.32	416.95	3.18
2-280-5-A-28-15-1-3-001	89.81	0.00	89.81	1,946.22	0.00	1,946.22	96.31	33.01	401.01	3.01
3-280-3-A-28-13-1-3-000	90.10	0.00	90.10	2,044.16	0.00	2,044.16	48.35	31.31	380.40	2.37
3-280-3-A-28-15-1-3-000	89.20	0.00	89.20	2,025.57	0.00	2,025.57	63.61	31.10	377.87	2.32
3-280-3-A-28-15-1-3-001	99.34	0.00	99.34	2,195.41	0.00	2,195.41	27.89	35.79	434.83	2.37
3-280-3-A-28-20-1-3-000	84.27	0.00	84.27	1,961.54	0.00	1,961.54	76.85	28.68	348.48	2.33
3-280-3-A-28-65-1-3-04Z	107.73	0.00	107.73	2,356.61	0.00	2,356.61	0.92	37.57	456.43	2.65
3-280-3-A-28-65-1-3-061	109.36	0.00	109.36	2,374.26	0.00	2,374.26	0.94	38.35	465.97	2.65
3-280-5-A-28-13-1-3-001	95.99	0.00	95.99	2,018.67	0.00	2,018.67	0.87	35.66	433.28	3.12
3-280-5-A-28-13-1-3-013	84.21	0.00	84.21	1,836.29	0.00	1,836.29	54.77	30.15	366.36	3.12
3-280-5-A-28-15-1-3-009	85.65	0.00	85.65	1,872.02	21.08	1,893.10	82.29	30.09	365.62	3.04
3-280-5-A-28-15-1-3-013	81.97	0.00	81.97	1,798.25	0.00	1,798.25	81.97	29.36	356.77	2.99
3-280-5-A-28-15-1-3-072	84.32	0.00	84.32	1,836.04	0.00	1,836.04	85.45	30.47	370.16	2.96
7-210-3-A-28-15-1-3-000	80.36	0.00	80.36	1,879.97	0.00	1,879.97	0.65	26.71	324.46	2.49
7-210-3-A-28-15-1-3-061	82.75	0.00	82.75	1,943.96	0.00	1,943.96	19.28	26.64	323.68	2.61
7-210-3-A-28-20-1-3-061	81.22	0.00	81.22	1,884.52	0.00	1,884.52	11.84	26.25	318.92	2.50
7-210-5-A-28-15-1-3-000	70.32	0.00	70.32	1,624.49	0.00	1,624.49	19.29	23.54	286.02	3.21
7-210-5-A-28-15-1-3-004	73.64	0.00	73.64	1,677.04	21.08	1,698.12	36.72	24.27	294.89	3.18
7-210-5-A-28-15-1-3-01P	68.60	0.00	68.60	1,578.16	0.00	1,578.16	59.97	21.53	261.57	3.20
7-210-5-A-28-15-1-3-061	67.43	0.00	67.43	1,554.85	0.00	1,554.85	60.58	21.60	262.39	3.11
7-280-3-A-28-15-1-3-000	83.35	0.00	83.35	1,960.52	0.00	1,960.52	20.88	28.06	340.88	2.51
7-280-3-A-28-15-1-3-061	92.60	0.00	92.60	2,070.11	0.00	2,070.11	0.76	31.19	378.94	2.50
7-280-3-A-28-20-1-3-000	85.40	0.00	85.40	1,968.28	0.00	1,968.28	37.45	29.17	354.39	2.39
7-280-3-A-28-20-1-3-061	92.70	0.00	92.70	2,083.34	0.00	2,083.34	0.77	31.35	380.90	2.51
7-280-5-A-28-13-1-3-000	76.65	0.00	76.65	1,722.02	0.00	1,722.02	51.66	26.67	324.01	3.12
7-280-5-A-28-15-1-3-000	81.75	0.00	81.75	1,820.71	0.00	1,820.71	21.78	28.88	350.89	3.19
7-350-3-A-28-15-1-3-000	105.47	0.00	105.47	2,288.40	0.00	2,288.40	56.82	38.53	468.19	2.35

RESOURCES USED: 1 M³ OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m³**
7-350-3-A-28-15-1-3-01P	94.23	0.00	94.23	2,079.12	0.00	2,079.12	88.72	31.72	385.34	2.35
7-350-3-A-28-15-1-3-061	97.09	0.00	97.09	2,145.42	0.00	2,145.42	62.87	33.40	405.78	2.39
7-350-3-A-28-20-1-3-061	89.07	0.00	89.07	2,064.71	0.00	2,064.71	48.18	29.06	353.08	2.55
7-350-5-A-28-15-1-3-000	88.28	0.00	88.28	1,930.61	0.00	1,930.61	13.37	31.84	386.84	3.23
7-350-5-A-28-15-1-3-01P	96.03	0.00	96.03	2,023.68	0.00	2,023.68	36.11	33.71	409.56	3.23
7-350-5-A-28-15-1-3-061	90.79	0.00	90.79	1,958.96	0.00	1,958.96	45.00	31.95	388.18	3.19
8-210-5-A-28-20-1-3-000	71.31	0.00	71.31	1,616.02	0.00	1,616.02	38.25	24.34	295.68	3.09
8-280-3-A-28-15-1-3-000	83.91	0.00	83.91	1,928.39	0.00	1,928.39	43.88	28.65	348.10	2.34
8-280-3-A-28-20-1-3-000	90.14	0.00	90.14	2,053.98	0.00	2,053.98	30.48	31.42	381.75	2.41
8-280-3-A-28-20-1-3-001	89.62	0.00	89.62	2,029.30	0.00	2,029.30	23.79	31.29	380.12	2.41
8-280-5-A-28-15-1-3-000	78.41	0.00	78.41	1,756.35	0.00	1,756.35	46.06	27.50	334.16	3.12
8-315-5-A-28-15-1-3-000	86.24	0.00	86.24	1,888.58	0.00	1,888.58	70.77	31.20	379.11	3.09
8-350-3-A-28-15-1-3-000	98.34	0.00	98.34	2,198.82	0.00	2,198.82	23.59	34.92	424.32	2.47
8-350-3-A-28-20-1-3-000	88.28	0.00	88.28	2,054.24	0.00	2,054.24	55.65	30.52	370.84	2.40
8-350-5-A-28-15-1-3-000	88.57	0.00	88.57	1,942.99	0.00	1,942.99	20.90	31.95	388.14	3.22
C-210-3-A-28-25-1-3-000	87.52	0.00	87.52	2,042.85	0.00	2,042.85	25.00	29.03	352.76	2.58
C-245-3-A-28-25-1-3-000	88.79	0.00	88.79	2,045.19	0.00	2,045.19	52.87	29.91	363.43	2.49
C-245-3-A-28-25-1-3-200	87.31	0.00	87.31	2,002.21	0.00	2,002.21	77.52	27.82	337.99	2.47
F-210-3-A-18-65-1-3-000	92.12	0.00	92.12	2,128.92	0.00	2,128.92	26.11	32.92	400.00	2.49
I-280-5-A-28-13-1-3-05A	107.44	0.00	107.44	2,072.41	0.00	2,072.41	9.18	32.76	398.03	3.54
I-280-5-A-28-15-1-3-000	80.79	0.00	80.79	1,758.01	0.00	1,758.01	43.69	28.42	345.33	3.23
I-280-5-A-28-15-1-3-01M	94.04	0.00	94.04	1,925.59	21.08	1,946.67	45.99	31.99	388.71	3.18
I-280-5-A-28-15-1-3-03Z	87.41	0.00	87.41	1,853.78	21.08	1,874.86	18.60	29.51	358.59	3.27
I-280-5-A-28-15-1-3-05H	96.10	0.00	96.10	1,927.35	21.08	1,948.43	49.38	31.98	388.53	3.11
I-350-5-A-28-15-1-3-01M	97.25	0.00	97.25	2,051.56	21.08	2,072.64	54.94	35.53	431.74	3.05
J-210-3-A-28-65-1-3-000	83.76	0.00	83.76	1,949.97	0.00	1,949.97	100.11	27.79	337.62	2.45
M-210-0-A-28-13-1-3-000	85.57	0.00	85.57	2,078.81	0.00	2,078.81	0.73	29.84	362.55	3.22
M-210-0-A-28-13-1-3-001	82.17	0.00	82.17	2,002.97	0.00	2,002.97	35.14	28.63	347.81	3.05
M-210-0-A-28-13-1-3-00S	87.77	0.00	87.77	2,068.98	0.00	2,068.98	13.59	30.01	364.56	3.13
M-210-0-A-28-13-1-3-01L	95.33	0.00	95.33	2,144.81	21.08	2,165.89	35.66	29.05	352.95	3.28

FUTURO EN ACCIÓN

RESOURCES USED: 1 M³ OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m³**
M-210-0-A-28-20-1-3-04A	110.69	0.00	110.69	2,398.27	0.00	2,398.27	0.85	34.71	421.70	3.43
M-280-0-A-28-20-1-3-000	101.91	0.00	101.91	2,255.40	0.00	2,255.40	32.12	37.93	460.88	2.99
M-280-0-A-28-20-1-3-061	100.93	0.00	100.93	2,237.87	0.00	2,237.87	55.42	35.96	436.92	3.08
O-210-3-A-18-15-1-3-000	82.31	0.00	82.31	1,970.18	0.00	1,970.18	13.40	27.69	336.44	2.42
O-210-3-A-18-15-1-3-01P	86.88	0.00	86.88	2,025.37	0.00	2,025.37	28.17	28.24	343.12	2.48
O-210-3-A-18-15-1-3-061	84.81	0.00	84.81	1,979.73	0.00	1,979.73	14.73	28.05	340.81	2.37
O-210-3-A-18-18-1-3-000	79.76	0.00	79.76	1,964.67	0.00	1,964.67	13.17	26.44	321.18	2.47
O-210-3-A-18-18-1-3-061	83.23	0.00	83.23	1,985.80	0.00	1,985.80	17.14	26.78	325.32	2.48
O-210-3-A-18-20-1-3-000	79.50	0.00	79.50	1,962.82	0.00	1,962.82	17.73	26.43	321.10	2.46
O-210-3-A-18-23-1-3-000	84.68	0.00	84.68	2,050.32	0.00	2,050.32	4.15	28.72	348.96	2.53
O-210-5-A-18-13-1-3-000	71.43	0.00	71.43	1,703.86	0.00	1,703.86	10.04	24.08	292.57	3.15
O-210-5-A-18-13-1-3-009	77.12	0.00	77.12	1,794.18	21.08	1,815.26	20.27	25.76	313.02	3.20
O-210-5-A-18-13-1-3-060	78.63	0.00	78.63	1,821.32	0.00	1,821.32	0.66	26.95	327.42	3.19
O-210-5-A-18-15-1-3-000	73.53	0.00	73.53	1,753.36	0.00	1,753.36	10.66	24.96	303.22	3.20
O-210-5-A-18-15-1-3-001	74.64	0.00	74.64	1,777.17	0.00	1,777.17	0.62	25.45	309.18	3.20
O-210-5-A-20-13-1-3-000	72.83	0.00	72.83	1,672.90	0.00	1,672.90	8.26	24.70	300.08	3.22
O-245-5-A-18-13-1-3-000	75.56	0.00	75.56	1,799.92	0.00	1,799.92	14.56	25.63	311.36	3.32
O-280-3-A-18-15-1-3-000	86.39	0.00	86.39	2,095.50	0.00	2,095.50	13.85	29.39	357.14	2.45
O-280-3-A-18-18-1-3-000	87.59	0.00	87.59	2,116.84	0.00	2,116.84	16.93	30.08	365.43	2.46
O-280-3-A-18-18-1-3-001	89.04	0.00	89.04	2,107.64	0.00	2,107.64	26.31	31.32	380.49	2.38
O-280-3-A-18-20-1-3-000	90.12	0.00	90.12	2,147.35	0.00	2,147.35	3.11	30.76	373.78	2.48
O-280-3-A-18-23-1-3-000	90.23	0.00	90.23	2,165.81	0.00	2,165.81	9.92	31.34	380.73	2.47
O-280-5-A-18-13-1-3-000	81.63	0.00	81.63	1,907.90	0.00	1,907.90	8.62	28.65	348.04	3.22
O-280-5-A-18-15-1-3-000	80.92	0.00	80.92	1,871.58	0.00	1,871.58	0.70	28.47	345.85	3.16
O-315-3-A-18-18-1-3-000	93.57	0.00	93.57	2,224.77	0.00	2,224.77	12.54	32.83	398.82	2.47
O-350-3-A-18-13-1-3-000	86.63	0.00	86.63	2,053.67	0.00	2,053.67	20.08	29.53	358.80	2.41
O-350-3-A-18-18-1-3-000	91.23	0.00	91.23	2,148.99	0.00	2,148.99	13.53	31.84	386.83	2.48
O-350-3-A-18-20-1-3-000	95.71	0.00	95.71	2,231.08	0.00	2,231.08	11.91	33.98	412.87	2.51
O-350-3-A-18-23-1-3-000	86.14	0.00	86.14	2,074.21	0.00	2,074.21	15.21	29.45	357.83	2.45
Q-210-5-A-28-15-1-4-547	60.64	1.07	61.70	2,136.28	1.43	2,137.71	28.79	16.31	157.17	3.43

FUTURO EN ACCIÓN

RESOURCES USED: 1 M³ OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m³**
Q-280-3-A-28-13-1-3-501	97.49	1.32	98.81	2,991.30	1.77	2,993.06	35.64	20.18	194.52	2.60
Q-280-3-A-28-13-1-3-63M	91.98	0.00	91.98	2,042.32	0.00	2,042.32	0.77	31.34	380.80	2.20
Q-350-3-A-28-15-1-3-60G	102.32	1.42	103.74	3,151.70	1.90	3,153.60	38.33	21.71	209.21	2.67
T-210-3-A-28-18-1-3-665	89.04	0.00	89.04	1,987.95	0.00	1,987.95	0.74	30.14	366.18	2.35
T-210-3-A-28-20-1-3-000	83.67	0.00	83.67	1,922.61	0.00	1,922.61	24.62	27.96	339.66	2.43
T-210-5-A-28-18-1-3-665	75.85	0.00	75.85	1,714.33	0.00	1,714.33	0.62	25.51	309.91	3.29
T-210-5-A-28-20-1-3-000	77.75	0.00	77.75	1,726.87	0.00	1,726.87	17.49	26.59	323.09	3.20
T-245-3-A-28-20-1-3-000	85.76	0.00	85.76	1,980.87	0.00	1,980.87	32.10	28.71	348.79	2.46
T-245-5-A-28-20-1-3-000	79.30	0.00	79.30	1,771.27	0.00	1,771.27	24.92	27.21	330.59	3.22
T-280-3-A-28-20-1-3-000	87.06	0.00	87.06	1,997.77	0.00	1,997.77	37.25	29.42	357.50	2.43
T-280-5-A-28-18-1-3-665	78.79	0.00	78.79	1,749.71	0.00	1,749.71	14.00	26.89	326.74	3.26
T-280-5-A-28-20-1-3-000	80.78	0.00	80.78	1,792.47	0.00	1,792.47	40.86	28.00	340.15	3.17
T-280-5-A-28-20-1-3-200	81.71	0.00	81.71	1,809.77	0.00	1,809.77	44.00	28.28	343.63	3.24
T-350-3-A-28-20-1-3-000	97.88	0.00	97.88	2,140.57	0.00	2,140.57	53.77	34.91	424.09	2.35
T-350-5-A-28-18-1-3-665	85.53	0.00	85.53	1,889.07	0.00	1,889.07	46.06	30.02	364.72	3.22
T-350-5-A-28-20-1-3-000	91.65	0.00	91.65	1,979.66	0.00	1,979.66	53.24	32.99	400.77	3.15
T-350-5-A-28-20-1-3-464	91.96	0.00	91.96	1,906.42	0.00	1,906.42	72.72	28.98	352.07	3.22
V-210-3-A-03-65-1-3-000	118.72	0.00	118.72	2,677.42	0.00	2,677.42	27.43	44.20	536.99	2.50
V-210-3-A-28-65-1-3-000	90.22	0.00	90.22	2,066.36	0.00	2,066.36	52.71	31.33	380.70	2.50
V-210-3-A-28-65-1-3-012	104.25	0.00	104.25	2,244.85	0.00	2,244.85	0.83	33.98	412.85	2.72
V-210-3-A-28-65-1-3-021	98.45	0.00	98.45	2,237.50	0.00	2,237.50	0.85	34.76	422.36	2.59
V-245-3-A-28-65-1-3-000	88.78	0.00	88.78	2,026.45	0.00	2,026.45	86.76	31.02	376.93	2.42
V-280-3-A-28-65-1-3-000	95.32	0.00	95.32	2,147.23	0.00	2,147.23	29.23	33.28	404.35	2.55
V-280-3-A-28-65-1-3-001	98.86	0.00	98.86	2,198.47	0.00	2,198.47	13.35	35.32	429.07	2.50
V-315-3-A-28-65-1-3-000	103.15	0.00	103.15	2,278.16	0.00	2,278.16	74.44	37.24	452.47	2.48
V-350-3-A-03-65-1-3-000	92.41	0.00	92.41	2,293.66	0.00	2,293.66	13.90	31.95	388.23	2.66
V-350-3-A-28-65-1-3-000	105.71	0.00	105.71	2,344.27	0.00	2,344.27	44.19	38.22	464.41	2.54
V-350-3-A-28-65-1-3-001	110.78	0.00	110.78	2,422.80	0.00	2,422.80	0.99	40.50	492.06	2.59
V-350-3-A-28-65-1-3-012	118.63	0.00	118.63	2,488.85	0.00	2,488.85	32.62	39.60	481.08	2.76
1-210-3-A-03-13-1-3-000	93.82	0.00	93.82	2,211.92	0.00	2,211.92	0.80	32.81	398.68	2.45

RESOURCES USED: 1 M^3 OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m^3**
Acronyms	PERE (Use of renewable primary energy excluding renewable primary energy resources used as raw materials) • PERM (Use of renewable primary energy resources used as raw materials) • PERT (Total use of renewable primary energy resources) • PENRE (Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials) • PENRM (Use of non-renewable primary energy resources used as raw materials) • PENRT (Total use of non-renewable primary energy resources) • SM (Use of secondary materials) • RSF (Use of renewable secondary fuels) • NRSF (Use of non-renewable secondary fuels) • NFW (Net use of fresh water)									

Strength > 35 MPa

ENVIRONMENTAL IMPACTS: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
Unit	**kg CO_2 eq.**	**kg CO_2 eq.**	**kg CFC 11 eq.**	**kg SO_2 eq.**	**kg N eq**	**kg O_3 eq.**	**kg Sb eq.**	**MJ, net calorific value**
1-385-3-A-28-13-1-3-000	414	0.10	1.18E-05	2.03	0.41	42.14	1.79E-04	2,228.19
1-420-3-A-03-15-1-3-000	805	0.17	2.39E-05	3.62	0.81	71.54	2.05E-04	3,958.50
1-420-3-A-28-20-1-3-000	450	0.11	1.28E-05	2.16	0.45	44.53	1.78E-04	2,365.90
1-420-5-A-03-15-1-3-000	638	0.14	1.99E-05	2.87	0.64	56.37	1.39E-04	3,176.73
1-420-5-A-14-15-1-3-001	460	0.11	1.28E-05	2.14	0.46	43.66	1.26E-04	2,310.55
1-420-5-A-28-15-1-3-000	372	0.09	1.10E-05	1.79	0.37	36.86	1.18E-04	1,973.88
1-420-5-A-28-15-1-3-001	421	0.10	1.20E-05	1.97	0.42	40.37	1.23E-04	2,154.35
3-420-5-A-28-15-1-3-000	479	0.11	1.31E-05	2.20	0.47	44.87	1.29E-04	2,372.17
3-420-5-A-28-15-1-3-001	437	0.10	1.22E-05	2.04	0.43	41.79	1.23E-04	2,212.23
3-420-5-A-28-15-1-3-072	467	0.11	1.28E-05	2.16	0.46	43.87	1.27E-04	2,324.05
8-420-3-A-28-20-1-3-000	390	0.10	1.19E-05	1.94	0.39	40.16	1.74E-04	2,165.09
A-490-3-A-28-15-1-3-551	451	0.11	1.28E-05	2.16	0.45	44.45	1.87E-04	2,369.52
A-490-3-A-28-20-1-3-551	449	0.11	1.24E-05	2.15	0.45	44.23	1.84E-04	2,338.02
A-490-3-A-28-65-1-3-402	487	0.14	1.56E-05	2.34	0.52	46.66	3.26E-04	2,614.09
A-490-3-A-28-65-1-3-523	481	0.11	1.38E-05	2.29	0.48	46.79	1.76E-04	2,505.80
A-700-3-A-28-20-1-3-551	566	0.13	1.64E-05	2.59	0.57	51.67	1.41E-04	2,803.43
F-420-3-A-18-65-1-3-000	536	0.12	1.75E-05	2.52	0.55	50.33	1.72E-04	2,849.99
O-420-3-A-18-13-1-3-000	405	0.10	1.29E-05	1.99	0.41	40.97	1.75E-04	2,252.01
O-420-3-A-18-18-1-3-000	437	0.10	1.38E-05	2.12	0.44	43.28	1.74E-04	2,385.83
O-420-3-A-18-20-1-3-000	446	0.11	1.42E-05	2.16	0.45	44.03	1.74E-04	2,437.34

ENVIRONMENTAL IMPACTS: 1 M³ OF READY-MIX CONCRETE.

Indicator	GWP-tot *	GWP-bio *	ODP	AP	EP	POCP	ADPE	ADPF
Unit	kg CO_2 eq.	kg CO_2 eq.	kg CFC 11 eq.	kg SO_2 eq.	kg N eq	kg O_3 eq.	kg Sb eq.	MJ, net calorific value
O-420-3-A-18-23-1-3-000	454	0.11	1.44E-05	2.19	0.46	44.50	1.74E-04	2,461.80
O-420-3-A-18-23-1-3-001	481	0.11	1.50E-05	2.27	0.49	45.77	1.67E-04	2,539.82
O-420-3-A-20-20-1-3-000	444	0.11	1.34E-05	2.15	0.45	44.02	1.75E-04	2,386.75
O-420-5-A-18-15-1-3-000	402	0.09	1.27E-05	1.90	0.41	38.64	1.20E-04	2,134.10
V-420-3-A-03-65-1-3-000	539	0.12	1.77E-05	2.54	0.55	50.82	1.81E-04	2,888.95
V-420-3-A-28-65-1-3-000	490	0.12	1.45E-05	2.33	0.50	47.06	1.86E-04	2,554.11
Acronyms	GWP-tot (Global warming potential) • GWP-bio (Global warming potential, biogenic) • ODP (Depletion potential of the stratospheric ozone layer) • AP (Acidification potential of soil and water sources) • EP (Eutrophication potential) • POCP (Photochemical oxidant creation potential) • ADPE (Abiotic depletion potential for non-fossil mineral resources) • ADPF (Abiotic depletion potential for fossil resources)							

RESOURCES USED: 1 M³ OF READY-MIX CONCRETE.

Indicator	PERE	PERM	PERT	PENRE	PENRM	PENRT	SM	RSF	NRSF	NFW
Unit	MJ	MJ	MJ	MJ	MJ.	MJ	kg	MJ	MJ	m^3
1-385-3-A-28-13-1-3-000	105.16	0.00	105.16	2,282.56	0.00	2,282.56	0.94	38.22	464.31	2.47
1-420-3-A-03-15-1-3-000	191.95	0.00	191.95	4,003.84	0.00	4,003.84	42.18	78.59	954.87	2.56
1-420-3-A-28-20-1-3-000	113.00	0.00	113.00	2,417.49	0.00	2,417.49	8.23	42.10	511.46	2.44
1-420-5-A-03-15-1-3-000	152.47	0.00	152.47	3,208.22	0.00	3,208.22	37.07	61.94	752.54	2.97
1-420-5-A-14-15-1-3-001	114.78	0.00	114.78	2,347.35	0.00	2,347.35	49.02	44.46	540.14	3.10
1-420-5-A-28-15-1-3-000	93.93	0.00	93.93	2,010.08	0.00	2,010.08	53.37	34.78	422.52	3.09
1-420-5-A-28-15-1-3-001	105.27	0.00	105.27	2,190.66	0.00	2,190.66	25.67	40.04	486.51	3.09
3-420-5-A-28-15-1-3-000	119.01	0.00	119.01	2,406.72	0.00	2,406.72	1.14	46.40	563.74	3.12
3-420-5-A-28-15-1-3-001	109.14	0.00	109.14	2,248.69	0.00	2,248.69	64.66	41.93	509.42	3.05
3-420-5-A-28-15-1-3-072	116.38	0.00	116.38	2,359.30	0.00	2,359.30	35.16	45.22	549.40	3.04
8-420-3-A-28-20-1-3-000	98.44	0.00	98.44	2,219.74	0.00	2,219.74	63.47	35.23	428.05	2.38
A-490-3-A-28-15-1-3-551	112.77	0.00	112.77	2,432.69	0.00	2,432.69	18.34	41.59	505.27	2.32
A-490-3-A-28-20-1-3-551	112.88	0.00	112.88	2,401.03	0.00	2,401.03	37.22	41.87	508.73	2.22
A-490-3-A-28-65-1-3-402	130.74	0.00	130.74	2,671.38	0.00	2,671.38	55.49	43.97	534.26	2.59
A-490-3-A-28-65-1-3-523	118.98	0.00	118.98	2,553.14	0.00	2,553.14	34.10	45.01	546.91	2.45

RESOURCES USED: 1 M³ OF READY-MIX CONCRETE.										
Indicator	**PERE**	**PERM**	**PERT**	**PENRE**	**PENRM**	**PENRT**	**SM**	**RSF**	**NRSF**	**NFW**
Unit	**MJ**	**MJ**	**MJ**	**MJ**	**MJ.**	**MJ**	**kg**	**MJ**	**MJ**	**m³**
A-700-3-A-28-20-1-3-551	137.81	0.00	137.81	2,844.77	0.00	2,844.77	1.34	54.56	662.90	3.31
F-420-3-A-18-65-1-3-000	129.50	0.00	129.50	2,889.33	0.00	2,889.33	22.30	50.08	608.42	2.48
O-420-3-A-18-13-1-3-000	101.52	0.00	101.52	2,306.78	0.00	2,306.78	22.54	36.57	444.31	2.38
O-420-3-A-18-18-1-3-000	108.47	0.00	108.47	2,435.83	0.00	2,435.83	18.05	39.95	485.40	2.44
O-420-3-A-18-20-1-3-000	110.15	0.00	110.15	2,484.09	0.00	2,484.09	12.74	40.71	494.61	2.51
O-420-3-A-18-23-1-3-000	112.22	0.00	112.22	2,510.32	0.00	2,510.32	20.05	41.77	507.52	2.43
O-420-3-A-18-23-1-3-001	117.63	0.00	117.63	2,581.50	0.00	2,581.50	1.10	44.75	543.73	2.39
O-420-3-A-20-20-1-3-000	110.83	0.00	110.83	2,435.31	0.00	2,435.31	14.97	41.11	499.45	2.47
O-420-5-A-18-15-1-3-000	100.03	0.00	100.03	2,171.39	0.00	2,171.39	22.87	37.53	455.92	3.10
V-420-3-A-03-65-1-3-000	129.34	0.00	129.34	2,933.07	0.00	2,933.07	3.86	49.47	601.07	2.57
V-420-3-A-28-65-1-3-000	122.39	0.00	122.39	2,592.95	0.00	2,592.95	61.19	46.29	562.40	2.46
Acronyms	PERE (Use of renewable primary energy excluding renewable primary energy resources used as raw materials) • PERM (Use of renewable primary energy resources used as raw materials) • PERT (Total use of renewable primary energy resources) • PENRE (Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials) • PENRM (Use of non-renewable primary energy resources used as raw materials) • PENRT (Total use of non-renewable primary energy resources) • SM (Use of secondary materials) • RSF (Use of renewable secondary fuels) • NRSF (Use of non-renewable secondary fuels) • NFW (Net use of fresh water)									

11. OTHER ENVIRONMENTAL INFORMATION

Strength <15 MPa

OTHER ENVIRONMENTAL INFORMATION: 1 M³ OF READY-MIX CONCRETE.								
Indicator	**GWP Net**	**HWD**	**NHWD**	**RWD**	**MER**	**MFR**	**EE**	**CRU**
Unit	**kgCO_2 eq**	**kg**	**kg**	**kg**	**kg**	**kg**	**MJ**	**kg**
1-105-5-A-28-10-0-3-000	192	0.04	0.03	-	0	38.63	0	0
1-105-5-A-28-13-1-3-000	194	0.04	0.03	-	0	38.63	0	0
1-105-5-A-28-15-1-3-000	201	0.04	0.03	-	0	38.63	0	0
1-105-5-A-28-20-1-3-000	194	0.04	0.03	-	0	38.63	0	0
1-140-3-A-28-13-1-3-000	213	0.04	0.03	-	0	38.63	0	0
1-140-5-A-28-10-0-3-000	211	0.04	0.03	-	0	38.64	0	0

OTHER ENVIRONMENTAL INFORMATION: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP Net**	**HWD**	**NHWD**	**RWD**	**MER**	**MFR**	**EE**	**CRU**
Unit	**kgCO_2 eq**	**kg**	**kg**	**kg**	**kg**	**kg**	**MJ**	**kg**
1-140-5-A-28-13-1-3-000	209	0.04	0.03	-	0	38.63	0	0
1-140-5-A-28-15-1-3-000	198	0.04	0.03	-	0	38.63	0	0
M-105-0-A-28-13-1-3-000	258	0.04	0.03	-	0	38.65	0	0
M-105-0-A-28-13-1-3-020	259	0.04	0.03	-	0	38.65	0	0
M-105-0-A-28-13-1-3-061	238	0.04	0.03	-	0	38.64	0	0
M-105-0-A-28-15-1-3-000	266	0.04	0.03	-	0	38.65	0	0
M-105-0-A-28-15-1-3-020	232	0.04	0.03	-	0	38.64	0	0
M-105-0-A-28-20-1-3-000	261	0.04	0.03	-	0	38.65	0	0
M-125-0-A-28-15-1-3-000	259	0.04	0.04	-	0	38.65	0	0
M-125-0-A-28-15-1-3-001	234	0.04	0.03	-	0	38.64	0	0
M-125-0-A-28-15-1-3-00S	245	0.04	0.03	-	0	38.64	0	0
M-125-0-A-28-15-1-3-060	256	0.04	0.03	-	0	38.64	0	0
M-140-0-A-28-13-1-3-000	244	0.04	0.03	-	0	38.64	0	0
M-140-0-A-28-13-1-3-01L	262	0.04	0.03	-	0	38.64	0	0
M-140-0-A-28-13-1-3-061	266	0.04	0.03	-	0	38.65	0	0
M-140-0-A-28-15-1-3-000	262	0.04	0.03	-	0	38.65	0	0
M-140-0-A-28-15-1-3-01K	272	0.04	0.03	-	0	38.65	0	0
M-140-0-A-28-15-1-3-03Z	282	0.05	0.03	-	0	38.65	0	0
M-140-0-A-28-20-1-3-060	275	0.05	0.04	-	0	38.65	0	0
P-036-5-A-28-15-1-3-000	295	0.05	0.03	-	0	38.67	0	0
P-039-5-A-07-13-0-3-000	364	0.06	0.04	-	0	38.69	0	0
P-040-5-A-03-13-0-3-000	375	0.06	0.04	-	0	38.69	0	0
P-040-5-A-07-13-0-3-000	362	0.06	0.04	-	0	38.69	0	0
P-040-5-A-28-10-0-3-000	306	0.05	0.03	-	0	38.67	0	0
P-040-5-A-28-13-0-3-000	306	0.05	0.06	-	0	38.67	0	0
P-041-5-A-28-10-0-3-000	312	0.05	0.03	-	0	38.67	0	0
P-041-5-A-28-13-0-3-000	320	0.05	0.04	-	0	38.68	0	0
P-041-5-A-28-15-1-3-000	323	0.05	0.04	-	0	38.68	0	0
P-042-5-A-28-18-0-3-530	411	0.06	0.04	-	0	38.70	0	0
P-043-5-A-03-13-0-3-000	402	0.06	0.04	-	0	38.70	0	0

OTHER ENVIRONMENTAL INFORMATION: 1 M³ OF READY-MIX CONCRETE.								
Indicator	**GWP Net**	**HWD**	**NHWD**	**RWD**	**MER**	**MFR**	**EE**	**CRU**
Unit	**kgCO_2 eq**	**kg**	**kg**	**kg**	**kg**	**kg**	**MJ**	**kg**
P-045-5-A-03-13-0-3-000	416	0.07	0.08	-	0	38.71	0	0
P-045-5-A-03-13-0-3-534	426	0.07	0.04	-	0	38.71	0	0
P-045-5-A-07-13-0-3-000	370	0.06	0.04	-	0	38.69	0	0
P-045-5-A-07-13-0-3-534	390	0.06	0.04	-	0	38.70	0	0
P-045-5-A-28-10-0-3-000	323	0.05	0.04	-	0	38.68	0	0
P-045-5-A-28-13-0-3-000	391	0.03	1.61	-	0	38.77	0.59	0
P-045-5-A-28-15-1-3-000	317	0.05	0.04	-	0	38.67	0	0
R-010-0-A-28-20-0-3-000	143	0.03	0.03	-	0	38.61	0	0
Acronyms	GWP-Net (Net Global warming potential) • HWD (hazardous waste disposed) • NHWD (non-hazardous waste disposed) • RWD (radioactive waste disposed) • MER (materials for energy recovery) • MFR (materials for recycling) • EE (exported energy) • CRU (components for re-use)							
Notes	• The gross GWP values include the greenhouse gas emissions from the coprocessing of secondary fuels at clinker production. The net GWP values exclude emissions from the coprocessing of secondary fuels at clinker production. • Not all LCA datasets for upstream materials include these impact categories and thus results may be incomplete. Use caution when interpreting data in these categories: 'Radioactive waste disposed'. According to the Global Cement and Concrete Association and industry studies, the only contribution in the cement and concrete sectors is the indirect contribution from the nuclear power share in the electricity mix, which is not present in Colombia's energy mix.							

Strength 15 to 20 MPa

OTHER ENVIRONMENTAL INFORMATION: 1 M³ OF READY-MIX CONCRETE.								
Indicator	**GWP Net**	**HWD**	**NHWD**	**RWD**	**MER**	**MFR**	**EE**	**CRU**
Unit	**kgCO_2 eq**	**kg**	**kg**	**kg**	**kg**	**kg**	**MJ**	**kg**
1-175-5-A-28-10-0-3-000	160	0.03	0.03	-	0	38.62	0	0
1-175-5-A-28-15-1-3-000	239	0.04	0.03	-	0	38.64	0	0
M-175-0-A-28-15-1-3-000	265	0.04	0.03	-	0	38.65	0	0
M-175-0-A-28-15-1-3-060	295	0.05	0.03	-	0	38.66	0	0
Acronyms	GWP-Net (Net Global warming potential) • HWD (hazardous waste disposed) • NHWD (non-hazardous waste disposed) • RWD (radioactive waste disposed) • MER (materials for energy recovery) • MFR (materials for recycling) • EE (exported energy) • CRU (components for re-use)							
Notes	• The gross GWP values include the greenhouse gas emissions from the coprocessing of secondary fuels at clinker production. The net GWP values exclude emissions from the coprocessing of secondary fuels at clinker production.							

OTHER ENVIRONMENTAL INFORMATION: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP Net**	**HWD**	**NHWD**	**RWD**	**MER**	**MFR**	**EE**	**CRU**
Unit	**kgCO_2 eq**	**kg**	**kg**	**kg**	**kg**	**kg**	**MJ**	**kg**
	• Not all LCA datasets for upstream materials include these impact categories and thus results may be incomplete. Use caution when interpreting data in these categories: 'Radioactive waste disposed'. According to the Global Cement and Concrete Association and industry studies, the only contribution in the cement and concrete sectors is the indirect contribution from the nuclear power share in the electricity mix, which is not present in Colombia's energy mix.							

Strength 20 to 35 MPa

OTHER ENVIRONMENTAL INFORMATION: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP Net**	**HWD**	**NHWD**	**RWD**	**MER**	**MFR**	**EE**	**CRU**
Unit	**kgCO_2 eq**	**kg**	**kg**	**kg**	**kg**	**kg**	**MJ**	**kg**
1-210-3-A-03-13-1-3-000	335	0.05	0.03	-	0	38.67	0	0
1-210-3-A-03-13-1-3-001	332	0.05	0.03	-	0	38.67	0	0
1-210-3-A-07-13-1-3-000	266	0.04	0.03	-	0	38.65	0	0
1-210-3-A-07-15-1-3-000	279	0.05	0.03	-	0	38.65	0	0
1-210-3-A-28-10-0-3-000	268	0.04	0.03	-	0	38.65	0	0
1-210-3-A-28-13-1-3-000	258	0.04	0.03	-	0	38.65	0	0
1-210-3-A-28-13-1-3-061	249	0.04	0.03	-	0	38.65	0	0
1-210-3-A-28-15-1-3-000	276	0.05	0.03	-	0	38.65	0	0
1-210-3-A-28-15-1-3-001	292	0.05	0.06	-	0	38.66	0	0
1-210-3-A-28-15-1-3-004	257	0.04	0.03	-	0	38.65	0	0
1-210-3-A-28-15-1-3-01N	271	0.04	0.03	-	0	38.65	0	0
1-210-3-A-28-15-1-3-05I	284	0.05	0.03	-	0	38.65	0	0
1-210-3-A-28-20-1-3-000	276	0.05	0.04	-	0	38.66	0	0
1-210-5-A-03-13-1-3-000	289	0.05	0.03	-	0	38.66	0	0
1-210-5-A-03-15-1-3-000	288	0.05	0.03	-	0	38.66	0	0
1-210-5-A-07-13-1-3-000	248	0.04	0.03	-	0	38.65	0	0
1-210-5-A-07-15-1-3-000	253	0.04	0.03	-	0	38.65	0	0
1-210-5-A-07-20-1-3-000	289	0.05	0.03	-	0	38.66	0	0
1-210-5-A-14-13-1-3-000	243	0.04	0.03	-	0	38.65	0	0
1-210-5-A-28-10-0-3-000	242	0.04	0.03	-	0	38.65	0	0

FUTURO EN ACCIÓN

OTHER ENVIRONMENTAL INFORMATION: 1 M^3 OF READY-MIX CONCRETE.

Indicator	GWP Net	HWD	NHWD	RWD	MER	MFR	EE	CRU
Unit	$kgCO_2$ eq	kg	kg	kg	kg	kg	MJ	kg
1-210-5-A-28-13-1-3-000	240	0.04	0.03	-	0	38.65	0	0
1-210-5-A-28-13-1-3-001	255	0.05	0.03	-	0	38.65	0	0
1-210-5-A-28-15-1-3-000	249	0.04	0.03	-	0	38.65	0	0
1-210-5-A-28-15-1-3-001	276	0.05	0.03	-	0	38.66	0	0
1-210-5-A-28-15-1-3-004	251	0.04	0.03	-	0	38.65	0	0
1-210-5-A-28-15-1-3-05M	273	0.05	0.03	-	0	38.65	0	0
1-210-5-A-28-15-1-3-061	258	0.04	0.03	-	0	38.65	0	0
1-210-5-A-28-20-1-3-000	252	0.04	0.03	-	0	38.65	0	0
1-210-5-A-28-20-1-3-060	246	0.04	0.03	-	0	38.65	0	0
1-210-5-A-28-20-1-3-061	248	0.04	0.03	-	0	38.65	0	0
1-245-3-A-03-15-1-3-000	341	0.05	0.04	-	0	38.67	0	0
1-245-3-A-14-15-1-3-01M	329	0.05	0.03	-	0	38.67	0	0
1-245-3-A-28-15-1-3-000	301	0.05	0.03	-	0	38.66	0	0
1-245-3-A-28-15-1-3-061	317	0.05	0.03	-	0	38.67	0	0
1-245-3-A-28-20-1-3-000	284	0.05	0.03	-	0	38.66	0	0
1-245-5-A-03-13-1-3-000	336	0.05	0.04	-	0	38.68	0	0
1-245-5-A-03-15-1-3-000	325	0.05	0.03	-	0	38.67	0	0
1-245-5-A-07-13-1-3-000	283	0.05	0.03	-	0	38.66	0	0
1-245-5-A-14-15-1-3-000	259	0.05	0.03	-	0	38.65	0	0
1-245-5-A-28-10-0-3-000	281	0.05	0.03	-	0	38.66	0	0
1-245-5-A-28-13-1-3-000	544	0.09	0.07	-	0	77.31	0	0
1-245-5-A-28-15-1-3-000	261	0.05	0.03	-	0	38.65	0	0
1-245-5-A-28-20-1-3-000	246	0.04	0.03	-	0	38.65	0	0
1-280-3-A-03-13-1-3-000	433	0.06	0.04	-	0	38.70	0	0
1-280-3-A-03-15-1-3-000	341	0.05	0.04	-	0	38.67	0	0
1-280-3-A-03-15-1-3-001	358	0.06	0.04	-	0	38.68	0	0
1-280-3-A-03-15-1-3-01O	374	0.06	0.04	-	0	38.68	0	0
1-280-3-A-07-13-1-3-000	345	0.05	0.04	-	0	38.68	0	0
1-280-3-A-07-15-1-3-000	349	0.06	0.04	-	0	38.68	0	0

OTHER ENVIRONMENTAL INFORMATION: 1 M^3 OF READY-MIX CONCRETE.

Indicator	GWP Net	HWD	NHWD	RWD	MER	MFR	EE	CRU
Unit	$kgCO_2$ eq	kg	kg	kg	kg	kg	MJ	kg
1-280-3-A-07-20-1-3-000	344	0.05	0.04	-	0	38.68	0	0
1-280-3-A-14-13-1-3-00N	349	0.06	0.04	-	0	38.68	0	0
1-280-3-A-14-20-1-3-000	327	0.05	0.03	-	0	38.67	0	0
1-280-3-A-28-10-0-3-000	291	0.05	0.04	-	0	38.66	0	0
1-280-3-A-28-13-1-3-000	296	0.05	0.03	-	0	38.66	0	0
1-280-3-A-28-13-1-3-013	298	0.05	0.03	-	0	38.66	0	0
1-280-3-A-28-15-1-3-000	292	0.05	0.03	-	0	38.66	0	0
1-280-3-A-28-15-1-3-001	305	0.05	0.03	-	0	38.67	0	0
1-280-3-A-28-20-1-3-000	295	0.05	0.04	-	0	38.66	0	0
1-280-3-A-28-20-1-3-061	301	0.05	0.06	-	0	38.66	0	0
1-280-5-A-03-13-1-3-000	337	0.05	0.04	-	0	38.68	0	0
1-280-5-A-03-15-1-3-000	328	0.05	0.03	-	0	38.67	0	0
1-280-5-A-03-15-1-3-001	333	0.05	0.04	-	0	38.68	0	0
1-280-5-A-03-20-1-3-000	347	0.06	0.04	-	0	38.68	0	0
1-280-5-A-07-13-1-3-000	317	0.05	0.03	-	0	38.67	0	0
1-280-5-A-07-15-1-3-000	320	0.05	0.03	-	0	38.67	0	0
1-280-5-A-07-15-1-3-001	345	0.06	0.04	-	0	38.68	0	0
1-280-5-A-07-20-1-3-000	313	0.05	0.03	-	0	38.67	0	0
1-280-5-A-14-15-1-3-000	322	0.05	0.04	-	0	38.67	0	0
1-280-5-A-28-10-0-3-000	267	0.05	0.03	-	0	38.66	0	0
1-280-5-A-28-13-1-3-000	272	0.05	0.03	-	0	38.66	0	0
1-280-5-A-28-13-1-3-001	282	0.05	0.03	-	0	38.66	0	0
1-280-5-A-28-13-1-3-004	294	0.05	0.03	-	0	38.67	0	0
1-280-5-A-28-15-1-3-000	275	0.05	0.04	-	0	38.66	0	0
1-280-5-A-28-15-1-3-001	281	0.05	0.03	-	0	38.66	0	0
1-280-5-A-28-15-1-3-002	285	0.05	0.03	-	0	38.66	0	0
1-280-5-A-28-15-1-3-004	283	0.05	0.03	-	0	38.66	0	0
1-280-5-A-28-15-1-3-009	304	0.05	0.03	-	0	38.67	0	0
1-280-5-A-28-15-1-3-00S	272	0.05	0.03	-	0	38.66	0	0

OTHER ENVIRONMENTAL INFORMATION: 1 M^3 OF READY-MIX CONCRETE.

Indicator	GWP Net	HWD	NHWD	RWD	MER	MFR	EE	CRU
Unit	$kgCO_2$ eq	kg	kg	kg	kg	kg	MJ	kg
1-280-5-A-28-15-1-3-060	277	0.05	0.03	-	0	38.66	0	0
1-280-5-A-28-20-1-3-000	277	0.05	0.03	-	0	38.66	0	0
1-315-3-A-28-15-1-3-000	364	0.06	0.04	-	0	38.69	0	0
1-315-5-A-28-10-0-3-000	295	0.05	0.04	-	0	38.66	0	0
1-315-5-A-28-13-1-3-000	311	0.05	0.03	-	0	38.67	0	0
1-315-5-A-28-15-1-3-000	302	0.05	0.03	-	0	38.67	0	0
1-315-5-A-28-15-1-3-001	344	0.06	0.04	-	0	38.68	0	0
1-315-5-A-28-15-1-3-009	376	0.06	0.04	-	0	38.70	0	0
1-350-3-A-03-15-1-3-000	443	0.07	0.05	-	0	38.71	0	0
1-350-3-A-03-20-1-3-000	436	0.07	0.04	-	0	38.71	0	0
1-350-3-A-07-15-1-3-000	374	0.06	0.07	-	0	38.69	0	0
1-350-3-A-28-15-1-3-000	341	0.05	0.04	-	0	38.68	0	0
1-350-3-A-28-20-1-3-000	336	0.05	0.04	-	0	38.68	0	0
1-350-3-A-28-20-1-3-060	338	0.05	0.04	-	0	38.67	0	0
1-350-3-A-28-20-1-3-061	345	0.05	0.04	-	0	38.68	0	0
1-350-5-A-03-13-1-3-000	412	0.06	0.04	-	0	38.70	0	0
1-350-5-A-03-15-1-3-000	397	0.06	0.04	-	0	38.70	0	0
1-350-5-A-03-15-1-3-004	455	0.07	0.04	-	0	38.72	0	0
1-350-5-A-07-15-1-3-000	350	0.06	0.04	-	0	38.68	0	0
1-350-5-A-28-10-0-3-000	328	0.05	0.04	-	0	38.68	0	0
1-350-5-A-28-13-1-3-000	298	0.05	0.03	-	0	38.67	0	0
1-350-5-A-28-15-1-3-000	303	0.05	0.03	-	0	38.67	0	0
1-350-5-A-28-15-1-3-001	319	0.05	0.04	-	0	38.67	0	0
1-350-5-A-28-15-1-3-004	351	0.06	0.04	-	0	38.68	0	0
1-350-5-A-28-20-1-3-000	306	0.05	0.03	-	0	38.67	0	0
1-350-5-A-28-20-1-3-00S	330	0.05	0.04	-	0	38.68	0	0
2-280-5-A-28-15-1-3-001	316	0.05	0.03	-	0	38.67	0	0
3-280-3-A-28-13-1-3-000	314	0.05	0.04	-	0	38.67	0	0
3-280-3-A-28-15-1-3-000	312	0.05	0.03	-	0	38.67	0	0

OTHER ENVIRONMENTAL INFORMATION: 1 M^3 OF READY-MIX CONCRETE.

Indicator	GWP Net	HWD	NHWD	RWD	MER	MFR	EE	CRU
Unit	$kgCO_2$ eq	kg	kg	kg	kg	kg	MJ	kg
3-280-3-A-28-15-1-3-001	350	0.06	0.04	-	0	38.68	0	0
3-280-3-A-28-20-1-3-000	294	0.05	0.03	-	0	38.66	0	0
3-280-3-A-28-65-1-3-04Z	371	0.06	0.04	-	0	38.69	0	0
3-280-3-A-28-65-1-3-061	377	0.06	0.04	-	0	38.69	0	0
3-280-5-A-28-13-1-3-001	336	0.06	0.04	-	0	38.68	0	0
3-280-5-A-28-13-1-3-013	293	0.05	0.03	-	0	38.67	0	0
3-280-5-A-28-15-1-3-009	296	0.05	0.03	-	0	38.67	0	0
3-280-5-A-28-15-1-3-013	286	0.05	0.03	-	0	38.66	0	0
3-280-5-A-28-15-1-3-072	295	0.05	0.03	-	0	38.67	0	0
7-210-3-A-28-15-1-3-000	278	0.05	0.03	-	0	38.66	0	0
7-210-3-A-28-15-1-3-061	282	0.05	0.04	-	0	38.66	0	0
7-210-3-A-28-20-1-3-061	276	0.05	0.04	-	0	38.65	0	0
7-210-5-A-28-15-1-3-000	243	0.04	0.04	-	0	38.65	0	0
7-210-5-A-28-15-1-3-004	251	0.04	0.03	-	0	38.65	0	0
7-210-5-A-28-15-1-3-01P	229	0.04	0.03	-	0	38.64	0	0
7-210-5-A-28-15-1-3-061	228	0.04	0.03	-	0	38.64	0	0
7-280-3-A-28-15-1-3-000	291	0.05	0.13	-	0	38.66	0	0
7-280-3-A-28-15-1-3-061	316	0.05	0.03	-	0	38.67	0	0
7-280-3-A-28-20-1-3-000	297	0.05	0.03	-	0	38.66	0	0
7-280-3-A-28-20-1-3-061	319	0.05	0.03	-	0	38.67	0	0
7-280-5-A-28-13-1-3-000	267	0.05	0.03	-	0	38.66	0	0
7-280-5-A-28-15-1-3-000	286	0.05	0.03	-	0	38.66	0	0
7-350-3-A-28-15-1-3-000	371	0.06	0.04	-	0	38.69	0	0
7-350-3-A-28-15-1-3-01P	321	0.05	0.03	-	0	38.67	0	0
7-350-3-A-28-15-1-3-061	334	0.05	0.04	-	0	38.67	0	0
7-350-3-A-28-20-1-3-061	303	0.05	0.03	-	0	38.66	0	0
7-350-5-A-28-15-1-3-000	310	0.05	0.03	-	0	38.67	0	0
7-350-5-A-28-15-1-3-01P	327	0.05	0.04	-	0	38.68	0	0
7-350-5-A-28-15-1-3-061	313	0.05	0.03	-	0	38.67	0	0

FUTURO EN ACCIÓN

OTHER ENVIRONMENTAL INFORMATION: 1 M^3 OF READY-MIX CONCRETE.

Indicator	GWP Net	HWD	NHWD	RWD	MER	MFR	EE	CRU
Unit	$kgCO_2$ eq	kg	kg	kg	kg	kg	MJ	kg
8-210-5-A-28-20-1-3-000	246	0.04	0.03	-	0	38.65	0	0
8-280-3-A-28-15-1-3-000	291	0.05	0.03	-	0	38.66	0	0
8-280-3-A-28-20-1-3-000	316	0.05	0.03	-	0	38.67	0	0
8-280-3-A-28-20-1-3-001	313	0.05	0.03	-	0	38.67	0	0
8-280-5-A-28-15-1-3-000	273	0.05	0.03	-	0	38.66	0	0
8-315-5-A-28-15-1-3-000	303	0.05	0.03	-	0	38.67	0	0
8-350-3-A-28-15-1-3-000	345	0.06	0.04	-	0	38.68	0	0
8-350-3-A-28-20-1-3-000	311	0.05	0.03	-	0	38.67	0	0
8-350-5-A-28-15-1-3-000	311	0.05	0.03	-	0	38.67	0	0
C-210-3-A-28-25-1-3-000	304	0.05	0.04	-	0	38.66	0	0
C-245-3-A-28-25-1-3-000	310	0.05	0.03	-	0	38.66	0	0
C-245-3-A-28-25-1-3-200	296	0.05	0.03	-	0	38.66	0	0
F-210-3-A-18-65-1-3-000	329	0.05	0.03	-	0	38.67	0	0
I-280-5-A-28-13-1-3-05A	329	0.05	0.03	-	0	38.67	0	0
I-280-5-A-28-15-1-3-000	278	0.05	0.03	-	0	38.66	0	0
I-280-5-A-28-15-1-3-01M	311	0.05	0.03	-	0	38.67	0	0
I-280-5-A-28-15-1-3-03Z	293	0.05	0.03	-	0	38.66	0	0
I-280-5-A-28-15-1-3-05H	312	0.05	0.03	-	0	38.67	0	0
I-350-5-A-28-15-1-3-01M	337	0.06	0.04	-	0	38.68	0	0
J-210-3-A-28-65-1-3-000	293	0.05	0.03	-	0	38.66	0	0
M-210-0-A-28-13-1-3-000	310	0.05	0.03	-	0	38.66	0	0
M-210-0-A-28-13-1-3-001	298	0.05	0.03	-	0	38.66	0	0
M-210-0-A-28-13-1-3-00S	312	0.05	0.09	-	0	38.66	0	0
M-210-0-A-28-13-1-3-01L	314	0.05	0.07	-	0	38.66	0	0
M-210-0-A-28-20-1-3-04A	365	0.05	0.04	-	0	38.68	0	0
M-280-0-A-28-20-1-3-000	368	0.06	0.04	-	0	38.69	0	0
M-280-0-A-28-20-1-3-061	356	0.06	0.04	-	0	38.68	0	0
O-210-3-A-18-15-1-3-000	290	0.05	0.04	-	0	38.66	0	0
O-210-3-A-18-15-1-3-01P	298	0.05	0.03	-	0	38.66	0	0

OTHER ENVIRONMENTAL INFORMATION: 1 M^3 OF READY-MIX CONCRETE.

Indicator	GWP Net	HWD	NHWD	RWD	MER	MFR	EE	CRU
Unit	$kgCO_2$ eq	kg	kg	kg	kg	kg	MJ	kg
O-210-3-A-18-15-1-3-061	294	0.05	0.03	-	0	38.66	0	0
O-210-3-A-18-18-1-3-000	282	0.05	0.03	-	0	38.65	0	0
O-210-3-A-18-18-1-3-061	286	0.05	0.03	-	0	38.66	0	0
O-210-3-A-18-20-1-3-000	282	0.05	0.03	-	0	38.65	0	0
O-210-3-A-18-23-1-3-000	302	0.05	0.03	-	0	38.66	0	0
O-210-5-A-18-13-1-3-000	252	0.04	0.03	-	0	38.65	0	0
O-210-5-A-18-13-1-3-009	267	0.05	0.03	-	0	38.65	0	0
O-210-5-A-18-13-1-3-060	277	0.05	0.03	-	0	38.66	0	0
O-210-5-A-18-15-1-3-000	260	0.04	0.03	-	0	38.65	0	0
O-210-5-A-18-15-1-3-001	265	0.05	0.03	-	0	38.65	0	0
O-210-5-A-20-13-1-3-000	253	0.04	0.03	-	0	38.65	0	0
O-245-5-A-18-13-1-3-000	266	0.05	0.03	-	0	38.65	0	0
O-280-3-A-18-15-1-3-000	308	0.05	0.03	-	0	38.66	0	0
O-280-3-A-18-18-1-3-000	313	0.05	0.03	-	0	38.67	0	0
O-280-3-A-18-18-1-3-001	319	0.05	0.03	-	0	38.67	0	0
O-280-3-A-18-20-1-3-000	320	0.05	0.03	-	0	38.67	0	0
O-280-3-A-18-23-1-3-000	324	0.05	0.03	-	0	38.67	0	0
O-280-5-A-18-13-1-3-000	291	0.05	0.03	-	0	38.66	0	0
O-280-5-A-18-15-1-3-000	287	0.05	0.03	-	0	38.66	0	0
O-315-3-A-18-18-1-3-000	336	0.05	0.03	-	0	38.67	0	0
O-350-3-A-18-13-1-3-000	305	0.05	0.03	-	0	38.66	0	0
O-350-3-A-18-18-1-3-000	325	0.05	0.03	-	0	38.67	0	0
O-350-3-A-18-20-1-3-000	343	0.05	0.04	-	0	38.68	0	0
O-350-3-A-18-23-1-3-000	306	0.05	0.03	-	0	38.66	0	0
Q-210-5-A-28-15-1-4-547	318	0.02	1.60	-	0	38.74	0.58	0
Q-280-3-A-28-13-1-3-501	429	0.02	1.97	-	0	38.77	0.72	0
Q-280-3-A-28-13-1-3-63M	315	0.05	0.03	-	0	38.67	0	0
Q-350-3-A-28-15-1-3-60G	456	0.02	2.12	-	0	38.79	0.78	0
T-210-3-A-28-18-1-3-665	305	0.05	0.03	-	0	38.67	0	0

OTHER ENVIRONMENTAL INFORMATION: 1 M^3 OF READY-MIX CONCRETE.

Indicator	GWP Net	HWD	NHWD	RWD	MER	MFR	EE	CRU
Unit	$kgCO_2$ eq	kg	kg	kg	kg	kg	MJ	kg
T-210-3-A-28-20-1-3-000	288	0.05	0.04	-	0	38.66	0	0
T-210-5-A-28-18-1-3-665	260	0.05	0.03	-	0	38.65	0	0
T-210-5-A-28-20-1-3-000	267	0.05	0.04	-	0	38.66	0	0
T-245-3-A-28-20-1-3-000	296	0.05	0.03	-	0	38.66	0	0
T-245-5-A-28-20-1-3-000	274	0.05	0.04	-	0	38.66	0	0
T-280-3-A-28-20-1-3-000	302	0.05	0.03	-	0	38.66	0	0
T-280-5-A-28-18-1-3-665	270	0.05	0.03	-	0	38.66	0	0
T-280-5-A-28-20-1-3-000	279	0.05	0.03	-	0	38.66	0	0
T-280-5-A-28-20-1-3-200	282	0.05	0.03	-	0	38.66	0	0
T-350-3-A-28-20-1-3-000	341	0.06	0.04	-	0	38.68	0	0
T-350-5-A-28-18-1-3-665	296	0.05	0.03	-	0	38.66	0	0
T-350-5-A-28-20-1-3-000	320	0.05	0.03	-	0	38.67	0	0
T-350-5-A-28-20-1-3-464	295	0.05	0.03	-	0	38.66	0	0
V-210-3-A-03-65-1-3-000	430	0.06	0.04	-	0	38.70	0	0
V-210-3-A-28-65-1-3-000	317	0.05	0.03	-	0	38.67	0	0
V-210-3-A-28-65-1-3-012	347	0.05	0.04	-	0	38.68	0	0
V-210-3-A-28-65-1-3-021	350	0.05	0.04	-	0	38.68	0	0
V-245-3-A-28-65-1-3-000	311	0.05	0.03	-	0	38.67	0	0
V-280-3-A-28-65-1-3-000	333	0.05	0.04	-	0	38.67	0	0
V-280-3-A-28-65-1-3-001	349	0.06	0.04	-	0	38.68	0	0
V-315-3-A-28-65-1-3-000	363	0.06	0.04	-	0	38.69	0	0
V-350-3-A-03-65-1-3-000	338	0.05	0.03	-	0	38.67	0	0
V-350-3-A-28-65-1-3-000	374	0.06	0.04	-	0	38.69	0	0
V-350-3-A-28-65-1-3-001	393	0.06	0.04	-	0	38.69	0	0
V-350-3-A-28-65-1-3-012	394	0.06	0.04	-	0	38.69	0	0

Acronyms	GWP-Net (Net Global warming potential) • HWD (hazardous waste disposed) • NHWD (non-hazardous waste disposed) • RWD (radioactive waste disposed) • MER (materials for energy recovery) • MFR (materials for recycling) • EE (exported energy) • CRU (components for re-use)
Notes	• The gross GWP values include the greenhouse gas emissions from the coprocessing of secondary fuels at clinker production. The net GWP values exclude emissions from the coprocessing of secondary fuels at clinker production.

OTHER ENVIRONMENTAL INFORMATION: 1 M³ OF READY-MIX CONCRETE.								
Indicator	**GWP Net**	**HWD**	**NHWD**	**RWD**	**MER**	**MFR**	**EE**	**CRU**
Unit	**kgCO_2 eq**	**kg**	**kg**	**kg**	**kg**	**kg**	**MJ**	**kg**
	• Not all LCA datasets for upstream materials include these impact categories and thus results may be incomplete. Use caution when interpreting data in these categories: 'Radioactive waste disposed'. According to the Global Cement and Concrete Association and industry studies, the only contribution in the cement and concrete sectors is the indirect contribution from the nuclear power share in the electricity mix, which is not present in Colombia's energy mix.							

Strength >35 MPa

OTHER ENVIRONMENTAL INFORMATION: 1 M³ OF READY-MIX CONCRETE.								
Indicator	**GWP Net**	**HWD**	**NHWD**	**RWD**	**MER**	**MFR**	**EE**	**CRU**
Unit	**kgCO_2 eq**	**kg**	**kg**	**kg**	**kg**	**kg**	**MJ**	**kg**
1-385-3-A-28-13-1-3-000	369	0.06	0.04	-	0	38.69	0	0
1-420-3-A-03-15-1-3-000	712	0.10	0.04	-	0	38.80	0	0
1-420-3-A-28-20-1-3-000	400	0.06	0.04	-	0	38.70	0	0
1-420-5-A-03-15-1-3-000	565	0.08	0.04	-	0	38.75	0	0
1-420-5-A-14-15-1-3-001	408	0.07	0.04	-	0	38.71	0	0
1-420-5-A-28-15-1-3-000	331	0.05	0.04	-	0	38.68	0	0
1-420-5-A-28-15-1-3-001	373	0.06	0.04	-	0	38.69	0	0
3-420-5-A-28-15-1-3-000	423	0.07	0.04	-	0	38.71	0	0
3-420-5-A-28-15-1-3-001	387	0.06	0.04	-	0	38.70	0	0
3-420-5-A-28-15-1-3-072	413	0.07	0.04	-	0	38.71	0	0
8-420-3-A-28-20-1-3-000	348	0.06	0.04	-	0	38.68	0	0
A-490-3-A-28-15-1-3-551	401	0.06	0.04	-	0	38.70	0	0
A-490-3-A-28-20-1-3-551	400	0.06	0.04	-	0	38.70	0	0
A-490-3-A-28-65-1-3-402	434	0.06	0.04	-	0	38.70	0	0
A-490-3-A-28-65-1-3-523	428	0.07	0.04	-	0	38.71	0	0
A-700-3-A-28-20-1-3-551	501	0.08	0.04	-	0	38.73	0	0
F-420-3-A-18-65-1-3-000	477	0.07	0.04	-	0	38.72	0	0
O-420-3-A-18-13-1-3-000	361	0.06	0.04	-	0	38.68	0	0
O-420-3-A-18-18-1-3-000	389	0.06	0.04	-	0	38.69	0	0
O-420-3-A-18-20-1-3-000	397	0.06	0.05	-	0	38.70	0	0

OTHER ENVIRONMENTAL INFORMATION: 1 M^3 OF READY-MIX CONCRETE.								
Indicator	**GWP Net**	**HWD**	**NHWD**	**RWD**	**MER**	**MFR**	**EE**	**CRU**
Unit	**kgCO_2 eq**	**kg**	**kg**	**kg**	**kg**	**kg**	**MJ**	**kg**
O-420-3-A-18-23-1-3-000	405	0.06	0.04	-	0	38.70	0	0
O-420-3-A-18-23-1-3-001	428	0.07	0.04	-	0	38.71	0	0
O-420-3-A-20-20-1-3-000	395	0.06	0.04	-	0	38.70	0	0
O-420-5-A-18-15-1-3-000	357	0.06	0.04	-	0	38.69	0	0
V-420-3-A-03-65-1-3-000	480	0.07	0.04	-	0	38.72	0	0
V-420-3-A-28-65-1-3-000	435	0.07	0.04	-	0	38.71	0	0
Acronyms	GWP-Net (Net Global warming potential) • HWD (hazardous waste disposed) • NHWD (non-hazardous waste disposed) • RWD (radioactive waste disposed) • MER (materials for energy recovery) • MFR (materials for recycling) • EE (exported energy) • CRU (components for re-use)							
Note	• The gross GWP values include the greenhouse gas emissions from the coprocessing of secondary fuels at clinker production. The net GWP values exclude emissions from the coprocessing of secondary fuels at clinker production. • Not all LCA datasets for upstream materials include these impact categories and thus results may be incomplete. Use caution when interpreting data in these categories: 'Radioactive waste disposed'. According to the Global Cement and Concrete Association and industry studies, the only contribution in the cement and concrete sectors is the indirect contribution from the nuclear power share in the electricity mix, which is not present in Colombia's energy mix.							

12. REFERENCES

- ISO 14025:2006 Environmental Labels and Declarations - Type III Environmental Declarations - Principles and Procedures
- ISO 14040:2006 Environmental Management - Life Cycle Assessment - Principles and Framework
- ISO 14044:2006 Environmental Management - Life Cycle Assessment - Requirements and Guidelines
- ISO 21930, Sustainability in building construction — Environmental declaration of building products.
- Labeling Sustainability - Program Operator for Product Category Rules (PCRs) and Environmental Product Declarations (EPDs): General Program Instructions
- NTC 220 - Cementos. Determinación de la resistencia de morteros de cemento hidráulico at la compresión, usando cubos de 50 mm o 2 pulgadas de lado.
- NTC 396 - Ingeniería Civil y Arquitectura. Método de ensayo para determinar el asentamiento del concreto.
- NTC 673 - Concretos. Ensayo de resistencia at la compresión de cilindros normales de Concreto.
- NTC 3318 - Concreto Premezclado.
- NSF International PCR for Portland, Blended, Masonry, Mortar, and Plastic (Stucco) Cements v3.2
- NSF International PCR for Concrete, Version 2.3 (including deviation) – 2024 Extension.
- GCCA Industry EPD Tool for Cement and Concrete (v4.1), North American Version