DECLARACIÓN AMBIENTAL DE PRODUCTO

CONCRETO
Planta Puente Aranda **/ Colombia**

SOSTENIBILIDAD COLOMBIA
2024

Declared product:

This Environmental Product Declaration (EPD) covers ready-mix concrete products manufactured by CEMEX Colombia in the Puente Aranda Plant.
Plant address: Cra 65B N° 18B - 02 Puente Aranda, 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: CCO02282506

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-28-15-1-3-55A	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	15	Convencional

Table 1. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
5	**1-105-5-A-28-20-1-3-000**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	20	Convencional
6	**1-140-3-A-28-10-0-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	10	Convencional
7	**1-140-3-A-28-15-1-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	15	Convencional
8	**1-140-5-A-28-10-0-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	10	Convencional
9	**1-140-5-A-28-13-1-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	13	Convencional
10	**1-140-5-A-28-15-1-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	15	Convencional
11	**1-140-5-A-28-15-1-3-55A**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	15	Convencional
12	**1-140-5-A-28-20-1-3-000**	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	20	Convencional
13	**M-105-0-A-28-13-1-3-000**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	13	Mortero
14	**M-105-0-A-28-13-1-3-01H**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	13	Mortero
15	**M-105-0-A-28-13-1-3-020**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	13	Mortero
16	**M-105-0-A-28-13-1-3-021**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	13	Mortero
17	**M-105-0-A-28-13-1-3-061**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	13	Mortero
18	**M-105-0-A-28-15-1-3-000**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	15	Mortero
19	**M-105-0-A-28-15-1-3-020**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	15	Mortero
20	**M-105-0-A-28-15-1-3-04J**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	15	Mortero
21	**M-105-0-A-28-15-1-3-062**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	15	Mortero
22	**M-105-0-A-28-20-1-3-000**	10.30 MPa at 28 Days Strength Ready Mix Concrete	10.3	28	20	Mortero
23	**M-125-0-A-28-13-1-3-000**	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	13	Mortero
24	**M-125-0-A-28-13-1-3-01H**	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	13	Mortero
25	**M-125-0-A-28-13-1-3-020**	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	13	Mortero
26	**M-125-0-A-28-13-1-3-021**	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	13	Mortero
27	**M-125-0-A-28-15-1-3-000**	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	15	Mortero
28	**M-125-0-A-28-15-1-3-01P**	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	15	Mortero
29	**M-125-0-A-28-15-1-3-021**	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	15	Mortero

Table 1. Declared products considered in this Environmental Product Declaration

Nº	Ready-mix	Description	Strength (MPa)	Age (Days)	Slump (cm)	Category
30	M-125-0-A-28-15-1-3-060	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	15	Mortero
31	M-125-0-A-28-15-1-3-061	12.26 MPa at 28 Days Strength Ready Mix Concrete	12.3	28	15	Mortero
32	M-140-0-A-28-13-1-3-000	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	13	Mortero
33	M-140-0-A-28-13-1-3-004	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	13	Mortero
34	M-140-0-A-28-20-1-3-01L	13.73 MPa at 28 Days Strength Ready Mix Concrete	13.7	28	20	Mortero
35	P-036-5-A-28-13-0-3-000	3.53 MPa at 28 Days Strength Ready Mix Concrete	3.5	28	13	Pavimento
36	P-039-5-A-28-13-0-3-000	3.82 MPa at 28 Days Strength Ready Mix Concrete	3.8	28	13	Pavimento
37	P-039-5-A-28-13-0-3-014	3.82 MPa at 28 Days Strength Ready Mix Concrete	3.8	28	13	Pavimento
38	P-039-5-A-28-15-1-3-000	3.82 MPa at 28 Days Strength Ready Mix Concrete	3.8	28	15	Pavimento
39	P-040-5-A-03-13-0-3-000	3.92 MPa at 03 Days Strength Ready Mix Concrete	3.9	3	13	Pavimento
40	P-040-5-A-28-15-1-3-000	3.92 MPa at 28 Days Strength Ready Mix Concrete	3.9	28	15	Pavimento
41	P-041-5-A-03-13-0-3-000	4.02 MPa at 03 Days Strength Ready Mix Concrete	4.0	3	13	Pavimento
42	P-041-5-A-28-13-0-3-000	4.02 MPa at 28 Days Strength Ready Mix Concrete	4.0	28	13	Pavimento
43	P-041-5-A-28-13-0-3-013	4.02 MPa at 28 Days Strength Ready Mix Concrete	4.0	28	13	Pavimento
44	P-042-5-A-03-13-0-3-000	4.12 MPa at 03 Days Strength Ready Mix Concrete	4.1	3	13	Pavimento
45	P-042-5-A-07-13-0-3-000	4.12 MPa at 07 Days Strength Ready Mix Concrete	4.1	7	13	Pavimento
46	P-042-5-A-28-10-0-3-000	4.12 MPa at 28 Days Strength Ready Mix Concrete	4.1	28	10	Pavimento
47	P-042-5-A-28-13-0-3-000	4.12 MPa at 28 Days Strength Ready Mix Concrete	4.1	28	13	Pavimento
48	P-042-5-A-28-15-1-3-000	4.12 MPa at 28 Days Strength Ready Mix Concrete	4.1	28	15	Pavimento
49	P-042-5-A-28-18-0-3-530	4.12 MPa at 28 Days Strength Ready Mix Concrete	4.1	28	18	Pavimento
50	P-043-5-A-03-13-0-3-000	4.22 MPa at 03 Days Strength Ready Mix Concrete	4.2	3	13	Pavimento
51	P-043-5-A-07-13-0-3-000	4.22 MPa at 07 Days Strength Ready Mix Concrete	4.2	7	13	Pavimento
52	P-043-5-A-28-10-0-3-000	4.22 MPa at 28 Days Strength Ready Mix Concrete	4.2	28	10	Pavimento
53	P-043-5-A-28-13-0-3-000	4.22 MPa at 28 Days Strength Ready Mix Concrete	4.2	28	13	Pavimento
54	P-043-5-A-28-13-0-3-025	4.22 MPa at 28 Days Strength Ready Mix Concrete	4.2	28	13	Pavimento

Table 1. Declared products considered in this Environmental Product Declaration						
N°	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
55	**P-043-5-A-28-18-0-3-530**	4.22 MPa at 28 Days Strength Ready Mix Concrete	4.2	28	18	Pavimento
56	**P-045-5-A-03-13-0-3-000**	4.41 MPa at 03 Days Strength Ready Mix Concrete	4.4	3	13	Pavimento
57	**P-045-5-A-07-13-0-3-000**	4.41 MPa at 07 Days Strength Ready Mix Concrete	4.4	7	13	Pavimento
58	**P-045-5-A-14-13-0-3-000**	4.41 MPa at 14 Days Strength Ready Mix Concrete	4.4	14	13	Pavimento
59	**P-045-5-A-28-10-0-3-000**	4.41 MPa at 28 Days Strength Ready Mix Concrete	4.4	28	10	Pavimento
60	**P-045-5-A-28-10-0-3-534**	4.41 MPa at 28 Days Strength Ready Mix Concrete	4.4	28	10	Pavimento
61	**P-045-5-A-28-13-0-3-000**	4.41 MPa at 28 Days Strength Ready Mix Concrete	4.4	28	13	Pavimento
62	**P-045-5-A-28-18-0-3-530**	4.41 MPa at 28 Days Strength Ready Mix Concrete	4.4	28	18	Pavimento
63	**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
64	**R-020-0-A-28-20-0-3-000**	1.96 MPa at 28 Days Strength Ready Mix Concrete	2.0	28	20	Rellenos Fluidos
65	**R-060-0-A-28-20-0-3-000**	5.88 MPa at 28 Days Strength Ready Mix Concrete	5.9	28	20	Rellenos Fluidos

Strength 15 to 20 Mpa

Table 2. Declared products considered in this Environmental Product Declaration						
N°	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
66	**1-175-3-A-28-13-1-3-000**	17.16 MPa at 28 Days Strength Ready Mix Concrete	17.2	28	13	Convencional
67	**1-175-3-A-28-15-1-3-000**	17.16 MPa at 28 Days Strength Ready Mix Concrete	17.2	28	15	Convencional
68	**1-175-5-A-28-15-1-3-000**	17.16 MPa at 28 Days Strength Ready Mix Concrete	17.2	28	15	Convencional
69	**1-175-5-A-28-20-1-3-000**	17.16 MPa at 28 Days Strength Ready Mix Concrete	17.2	28	20	Convencional
70	**M-175-0-A-28-13-1-3-000**	17.16 MPa at 28 Days Strength Ready Mix Concrete	17.2	28	13	Mortero
71	**M-175-0-A-28-15-1-3-004**	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
72	1-210-3-A-03-13-1-3-000	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	13	Acelerado
73	1-210-3-A-03-13-1-3-001	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	13	Acelerado
74	1-210-3-A-03-15-1-3-000	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	15	Acelerado
75	1-210-3-A-03-15-1-3-001	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	15	Acelerado
76	1-210-3-A-03-15-1-3-004	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	15	Acelerado
77	1-210-3-A-03-15-1-3-020	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	15	Acelerado
78	1-210-3-A-07-13-1-3-000	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	13	Acelerado
79	1-210-3-A-28-10-0-3-000	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	10	Convencional
80	1-210-3-A-28-13-1-3-000	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
81	1-210-3-A-28-13-1-3-001	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
82	1-210-3-A-28-13-1-3-008	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
83	1-210-3-A-28-15-1-3-000	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
84	1-210-3-A-28-15-1-3-001	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
85	1-210-3-A-28-15-1-3-004	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
86	1-210-3-A-28-15-1-3-01Z	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
87	1-210-3-A-28-15-1-3-060	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
88	1-210-3-A-28-15-1-3-061	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
89	1-210-3-A-28-20-1-3-000	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Convencional
90	1-210-5-A-03-13-1-3-000	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	13	Acelerado
91	1-210-5-A-03-13-1-3-001	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	13	Acelerado
92	1-210-5-A-03-13-1-3-024	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	13	Acelerado
93	1-210-5-A-03-15-1-3-000	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	15	Acelerado

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
94	**1-210-5-A-03-20-1-3-000**	20.59 MPa at 03 Days Strength Ready Mix Concrete	20.6	3	20	Acelerado
95	**1-210-5-A-07-13-1-3-000**	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	13	Acelerado
96	**1-210-5-A-07-13-1-3-024**	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	13	Acelerado
97	**1-210-5-A-07-13-1-3-04Z**	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	13	Acelerado
98	**1-210-5-A-07-15-1-3-000**	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	15	Acelerado
99	**1-210-5-A-07-15-1-3-024**	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	15	Acelerado
100	**1-210-5-A-07-20-1-3-000**	20.59 MPa at 07 Days Strength Ready Mix Concrete	20.6	7	20	Acelerado
101	**1-210-5-A-14-13-1-3-000**	20.59 MPa at 14 Days Strength Ready Mix Concrete	20.6	14	13	Acelerado
102	**1-210-5-A-14-15-1-3-000**	20.59 MPa at 14 Days Strength Ready Mix Concrete	20.6	14	15	Acelerado
103	**1-210-5-A-14-15-1-3-001**	20.59 MPa at 14 Days Strength Ready Mix Concrete	20.6	14	15	Acelerado
104	**1-210-5-A-28-10-0-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	10	Convencional
105	**1-210-5-A-28-10-0-3-001**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	10	Convencional
106	**1-210-5-A-28-13-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
107	**1-210-5-A-28-13-1-3-001**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
108	**1-210-5-A-28-13-1-3-01P**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
109	**1-210-5-A-28-13-1-3-025**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
110	**1-210-5-A-28-13-1-3-04M**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
111	**1-210-5-A-28-13-1-3-04W**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Convencional
112	**1-210-5-A-28-15-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
113	**1-210-5-A-28-15-1-3-001**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
114	**1-210-5-A-28-15-1-3-004**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
115	**1-210-5-A-28-15-1-3-009**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
116	**1-210-5-A-28-15-1-3-025**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
117	**1-210-5-A-28-15-1-3-03Z**	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**
118	**1-210-5-A-28-15-1-3-04M**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
119	**1-210-5-A-28-15-1-3-04W**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
120	**1-210-5-A-28-15-1-3-061**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
121	**1-210-5-A-28-15-1-3-55A**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Convencional
122	**1-210-5-A-28-20-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Convencional
123	**1-210-5-A-28-20-1-3-04W**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Convencional
124	**1-210-5-A-28-20-1-3-061**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Convencional
125	**1-245-3-A-03-13-1-3-001**	24.03 MPa at 03 Days Strength Ready Mix Concrete	24.0	3	13	Acelerado
126	**1-245-3-A-14-13-1-3-000**	24.03 MPa at 14 Days Strength Ready Mix Concrete	24.0	14	13	Acelerado
127	**1-245-3-A-28-10-0-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	10	Convencional
128	**1-245-3-A-28-13-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	13	Convencional
129	**1-245-3-A-28-13-1-3-001**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	13	Convencional
130	**1-245-3-A-28-15-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	15	Convencional
131	**1-245-3-A-28-20-1-3-001**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	20	Convencional
132	**1-245-5-A-03-13-1-3-000**	24.03 MPa at 03 Days Strength Ready Mix Concrete	24.0	3	13	Acelerado
133	**1-245-5-A-03-15-1-3-000**	24.03 MPa at 03 Days Strength Ready Mix Concrete	24.0	3	15	Acelerado
134	**1-245-5-A-14-13-1-3-000**	24.03 MPa at 14 Days Strength Ready Mix Concrete	24.0	14	13	Acelerado
135	**1-245-5-A-14-15-1-3-001**	24.03 MPa at 14 Days Strength Ready Mix Concrete	24.0	14	15	Acelerado
136	**1-245-5-A-28-10-0-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	10	Convencional
137	**1-245-5-A-28-13-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	13	Convencional
138	**1-245-5-A-28-13-1-3-001**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	13	Convencional
139	**1-245-5-A-28-15-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	15	Convencional
140	**1-245-5-A-28-15-1-3-001**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	15	Convencional
141	**1-280-3-A-03-13-1-3-000**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	13	Acelerado

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
142	**1-280-3-A-03-13-1-3-001**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	13	Acelerado
143	**1-280-3-A-03-15-1-3-001**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
144	**1-280-3-A-03-15-1-3-009**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
145	**1-280-3-A-03-15-1-3-01O**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
146	**1-280-3-A-03-20-1-3-000**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	20	Acelerado
147	**1-280-3-A-07-20-1-3-000**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	20	Acelerado
148	**1-280-3-A-14-13-1-3-000**	27.46 MPa at 14 Days Strength Ready Mix Concrete	27.5	14	13	Acelerado
149	**1-280-3-A-14-15-1-3-000**	27.46 MPa at 14 Days Strength Ready Mix Concrete	27.5	14	15	Acelerado
150	**1-280-3-A-14-20-1-3-000**	27.46 MPa at 14 Days Strength Ready Mix Concrete	27.5	14	20	Acelerado
151	**1-280-3-A-14-20-1-3-001**	27.46 MPa at 14 Days Strength Ready Mix Concrete	27.5	14	20	Acelerado
152	**1-280-3-A-28-10-0-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	10	Convencional
153	**1-280-3-A-28-10-0-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	10	Convencional
154	**1-280-3-A-28-13-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
155	**1-280-3-A-28-13-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
156	**1-280-3-A-28-13-1-3-054**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
157	**1-280-3-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
158	**1-280-3-A-28-15-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
159	**1-280-3-A-28-15-1-3-004**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
160	**1-280-3-A-28-15-1-3-060**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
161	**1-280-3-A-28-15-1-3-061**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
162	**1-280-3-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
163	**1-280-3-A-28-20-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
164	**1-280-3-A-28-20-1-3-060**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
165	**1-280-3-A-28-20-1-3-061**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
166	**1-280-3-A-28-20-1-3-62F**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
167	**1-280-5-A-03-13-1-3-000**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	13	Acelerado
168	**1-280-5-A-03-13-1-3-001**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	13	Acelerado
169	**1-280-5-A-03-15-1-3-000**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
170	**1-280-5-A-03-15-1-3-004**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
171	**1-280-5-A-03-15-1-3-009**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
172	**1-280-5-A-03-15-1-3-073**	27.46 MPa at 03 Days Strength Ready Mix Concrete	27.5	3	15	Acelerado
173	**1-280-5-A-07-13-1-3-000**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	13	Acelerado
174	**1-280-5-A-07-13-1-3-00V**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	13	Acelerado
175	**1-280-5-A-07-13-1-3-024**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	13	Acelerado
176	**1-280-5-A-07-15-1-3-000**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	15	Acelerado
177	**1-280-5-A-07-20-1-3-000**	27.46 MPa at 07 Days Strength Ready Mix Concrete	27.5	7	20	Acelerado
178	**1-280-5-A-14-13-1-3-000**	27.46 MPa at 14 Days Strength Ready Mix Concrete	27.5	14	13	Acelerado
179	**1-280-5-A-14-15-1-3-000**	27.46 MPa at 14 Days Strength Ready Mix Concrete	27.5	14	15	Acelerado
180	**1-280-5-A-14-15-1-3-001**	27.46 MPa at 14 Days Strength Ready Mix Concrete	27.5	14	15	Acelerado
181	**1-280-5-A-28-10-0-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	10	Convencional
182	**1-280-5-A-28-13-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
183	**1-280-5-A-28-13-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
184	**1-280-5-A-28-13-1-3-009**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
185	**1-280-5-A-28-13-1-3-024**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
186	**1-280-5-A-28-13-1-3-02H**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
187	**1-280-5-A-28-13-1-3-04M**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
188	**1-280-5-A-28-13-1-3-04W**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Convencional
189	**1-280-5-A-28-13-1-3-061**	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						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
190	**1-280-5-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
191	**1-280-5-A-28-15-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
192	**1-280-5-A-28-15-1-3-002**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
193	**1-280-5-A-28-15-1-3-004**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
194	**1-280-5-A-28-15-1-3-009**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
195	**1-280-5-A-28-15-1-3-025**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
196	**1-280-5-A-28-15-1-3-04W**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
197	**1-280-5-A-28-15-1-3-060**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
198	**1-280-5-A-28-15-1-3-061**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
199	**1-280-5-A-28-15-1-3-55A**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
200	**1-280-5-A-28-15-1-3-66L**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Convencional
201	**1-280-5-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
202	**1-280-5-A-28-20-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
203	**1-280-5-A-28-20-1-3-03Z**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
204	**1-280-5-A-28-20-1-3-060**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
205	**1-280-5-A-28-20-1-3-061**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Convencional
206	**1-315-3-A-07-15-1-3-001**	30.89 MPa at 07 Days Strength Ready Mix Concrete	30.9	7	15	Acelerado
207	**1-315-5-A-03-15-1-3-000**	30.89 MPa at 03 Days Strength Ready Mix Concrete	30.9	3	15	Acelerado
208	**1-315-5-A-07-15-1-3-000**	30.89 MPa at 07 Days Strength Ready Mix Concrete	30.9	7	15	Acelerado
209	**1-315-5-A-14-15-1-3-000**	30.89 MPa at 14 Days Strength Ready Mix Concrete	30.9	14	15	Acelerado
210	**1-315-5-A-28-13-1-3-000**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	13	Convencional
211	**1-315-5-A-28-13-1-3-001**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	13	Convencional
212	**1-315-5-A-28-15-1-3-000**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	15	Convencional
213	**1-315-5-A-28-15-1-3-004**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	15	Convencional

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
214	**1-350-3-A-03-15-1-3-000**	34.32 MPa at 03 Days Strength Ready Mix Concrete	34.3	3	15	Acelerado
215	**1-350-3-A-03-15-1-3-004**	34.32 MPa at 03 Days Strength Ready Mix Concrete	34.3	3	15	Acelerado
216	**1-350-3-A-07-20-1-3-000**	34.32 MPa at 07 Days Strength Ready Mix Concrete	34.3	7	20	Acelerado
217	**1-350-3-A-28-13-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	13	Convencional
218	**1-350-3-A-28-13-1-3-001**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	13	Convencional
219	**1-350-3-A-28-15-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
220	**1-350-3-A-28-15-1-3-001**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
221	**1-350-3-A-28-15-1-3-00V**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
222	**1-350-3-A-28-15-1-3-55A**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
223	**1-350-3-A-28-20-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Convencional
224	**1-350-3-A-28-20-1-3-060**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Convencional
225	**1-350-3-A-28-20-1-3-061**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Convencional
226	**1-350-5-A-03-15-1-3-000**	34.32 MPa at 03 Days Strength Ready Mix Concrete	34.3	3	15	Acelerado
227	**1-350-5-A-03-15-1-3-001**	34.32 MPa at 03 Days Strength Ready Mix Concrete	34.3	3	15	Acelerado
228	**1-350-5-A-07-13-1-3-000**	34.32 MPa at 07 Days Strength Ready Mix Concrete	34.3	7	13	Acelerado
229	**1-350-5-A-07-15-1-3-000**	34.32 MPa at 07 Days Strength Ready Mix Concrete	34.3	7	15	Acelerado
230	**1-350-5-A-28-13-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	13	Convencional
231	**1-350-5-A-28-13-1-3-024**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	13	Convencional
232	**1-350-5-A-28-15-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
233	**1-350-5-A-28-15-1-3-004**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
234	**1-350-5-A-28-15-1-3-55A**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Convencional
235	**1-350-5-A-28-20-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Convencional
236	**3-280-3-A-28-13-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Durabilidad
237	**3-280-3-A-28-13-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Durabilidad

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
238	**3-280-5-A-28-13-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Durabilidad
239	**3-280-5-A-28-13-1-3-66E**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Durabilidad
240	**3-280-5-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Durabilidad
241	**3-280-5-A-28-15-1-3-009**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Durabilidad
242	**3-280-5-A-28-20-1-3-009**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Durabilidad
243	**8-210-3-A-28-15-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Especial
244	**8-210-3-A-28-20-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Especial
245	**8-210-5-A-28-13-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Especial
246	**8-280-3-A-28-13-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Especial
247	**8-280-3-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Especial
248	**8-280-3-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Especial
249	**8-280-5-A-28-15-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	15	Especial
250	**8-315-5-A-28-15-1-3-000**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	15	Especial
251	**8-350-3-A-28-15-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Especial
252	**8-350-3-A-28-20-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Especial
253	**8-350-5-A-28-15-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	15	Especial
254	**C-210-3-A-28-25-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	25	Especial
255	**F-210-3-A-18-65-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	65	Especial
256	**F-280-3-A-18-65-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	65	Especial
257	**F-350-3-A-18-65-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	65	Especial
258	**F-350-3-A-18-65-1-3-001**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	65	Especial
259	**I-210-3-A-28-15-1-3-004**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Especial
260	**I-280-5-A-28-13-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	13	Especial
261	**J-210-3-A-28-65-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	65	Especial

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Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
262	**J-210-3-A-28-65-1-3-464**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	65	Especial
263	**J-210-3-A-28-65-1-3-62L**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	65	Especial
264	**J-245-3-A-28-65-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	65	Especial
265	**J-245-3-A-28-65-1-3-020**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	65	Especial
266	**M-210-0-A-28-13-1-3-061**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	13	Mortero
267	**M-210-0-A-28-15-1-3-05E**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	15	Mortero
268	**O-210-3-A-18-13-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	13	Industrializado
269	**O-210-3-A-18-15-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	15	Industrializado
270	**O-210-3-A-18-18-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	18	Industrializado
271	**O-210-3-A-18-18-1-3-060**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	18	Industrializado
272	**O-210-3-A-18-20-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	20	Industrializado
273	**O-210-3-A-18-23-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	23	Industrializado
274	**O-210-3-A-20-20-1-3-000**	20.59 MPa at 20 Days Strength Ready Mix Concrete	20.6	20	20	Industrializado
275	**O-210-3-A-20-23-1-3-000**	20.59 MPa at 20 Days Strength Ready Mix Concrete	20.6	20	23	Industrializado
276	**O-210-5-A-18-13-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	13	Industrializado
277	**O-210-5-A-18-13-1-3-001**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	13	Industrializado
278	**O-210-5-A-18-13-1-3-009**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	13	Industrializado
279	**O-210-5-A-18-13-1-3-024**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	13	Industrializado
280	**O-210-5-A-18-13-1-3-072**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	13	Industrializado
281	**O-210-5-A-18-15-1-3-000**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	15	Industrializado
282	**O-210-5-A-18-15-1-3-001**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	15	Industrializado
283	**O-210-5-A-18-15-1-3-025**	20.59 MPa at 18 Days Strength Ready Mix Concrete	20.6	18	15	Industrializado
284	**O-245-3-A-18-15-1-3-000**	24.03 MPa at 18 Days Strength Ready Mix Concrete	24.0	18	15	Industrializado
285	**O-245-5-A-18-15-1-3-000**	24.03 MPa at 18 Days Strength Ready Mix Concrete	24.0	18	15	Industrializado

Table 3. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
286	**O-245-5-A-20-13-1-3-000**	24.03 MPa at 20 Days Strength Ready Mix Concrete	24.0	20	13	Industrializado
287	**O-280-3-A-18-13-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	13	Industrializado
288	**O-280-3-A-18-15-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	15	Industrializado
289	**O-280-3-A-18-15-1-3-001**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	15	Industrializado
290	**O-280-3-A-18-18-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	18	Industrializado
291	**O-280-3-A-18-18-1-3-001**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	18	Industrializado
292	**O-280-3-A-18-20-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	20	Industrializado
293	**O-280-3-A-18-23-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	23	Industrializado
294	**O-280-3-A-20-20-1-3-000**	27.46 MPa at 20 Days Strength Ready Mix Concrete	27.5	20	20	Industrializado
295	**O-280-5-A-18-13-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	13	Industrializado
296	**O-280-5-A-18-13-1-3-024**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	13	Industrializado
297	**O-280-5-A-18-15-1-3-000**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	15	Industrializado
298	**O-280-5-A-18-15-1-3-001**	27.46 MPa at 18 Days Strength Ready Mix Concrete	27.5	18	15	Industrializado
299	**O-350-3-A-18-13-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	13	Industrializado
300	**O-350-3-A-18-15-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	15	Industrializado
301	**O-350-3-A-18-18-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	18	Industrializado
302	**O-350-3-A-18-20-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	20	Industrializado
303	**O-350-3-A-18-23-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	23	Industrializado
304	**O-350-5-A-18-13-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	13	Industrializado
305	**O-350-5-A-18-15-1-3-000**	34.32 MPa at 18 Days Strength Ready Mix Concrete	34.3	18	15	Industrializado
306	**T-210-3-A-28-20-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Tremie
307	**T-210-5-A-28-20-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Tremie
308	**T-210-5-A-28-20-1-3-464**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	20	Tremie
309	**T-245-3-A-28-20-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	20	Tremie

Table 3. Declared products considered in this Environmental Product Declaration						
N°	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
310	**T-245-5-A-28-20-1-3-000**	24.03 MPa at 28 Days Strength Ready Mix Concrete	24.0	28	20	Tremie
311	**T-280-3-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Tremie
312	**T-280-3-A-28-20-1-3-59M**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Tremie
313	**T-280-3-A-28-23-1-3-63F**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	23	Tremie
314	**T-280-5-A-28-18-1-3-665**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	18	Tremie
315	**T-280-5-A-28-20-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Tremie
316	**T-280-5-A-28-20-1-3-200**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Tremie
317	**T-280-5-A-28-20-1-3-66G**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	20	Tremie
318	**T-350-3-A-28-20-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Tremie
319	**T-350-5-A-28-20-1-3-000**	34.32 MPa at 28 Days Strength Ready Mix Concrete	34.3	28	20	Tremie
320	**V-210-3-A-28-65-1-3-000**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	65	Especial
321	**V-210-3-A-28-65-1-3-012**	20.59 MPa at 28 Days Strength Ready Mix Concrete	20.6	28	65	Especial
322	**V-280-3-A-28-65-1-3-000**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	65	Especial
323	**V-280-3-A-28-65-1-3-001**	27.46 MPa at 28 Days Strength Ready Mix Concrete	27.5	28	65	Especial
324	**V-315-3-A-28-65-1-3-000**	30.89 MPa at 28 Days Strength Ready Mix Concrete	30.9	28	65	Especial
325	**V-350-3-A-03-65-1-3-000**	34.32 MPa at 03 Days Strength Ready Mix Concrete	34.3	3	65	Especial
326	**V-350-3-A-28-65-1-3-000**	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**
327	**1-420-3-A-03-13-1-3-072**	41.19 MPa at 03 Days Strength Ready Mix Concrete	41.2	3	13	Acelerado
328	**1-420-3-A-07-13-1-3-072**	41.19 MPa at 07 Days Strength Ready Mix Concrete	41.2	7	13	Acelerado
329	**1-420-3-A-07-15-1-3-55A**	41.19 MPa at 07 Days Strength Ready Mix Concrete	41.2	7	15	Acelerado
330	**1-420-3-A-28-15-1-3-000**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	15	Convencional

Table 4. Declared products considered in this Environmental Product Declaration						
Nº	**Ready-mix**	**Description**	**Strength (MPa)**	**Age (Days)**	**Slump (cm)**	**Category**
331	**1-420-3-A-28-20-1-3-000**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	20	Convencional
332	**1-420-5-A-07-15-1-3-55A**	41.19 MPa at 07 Days Strength Ready Mix Concrete	41.2	7	15	Acelerado
333	**1-420-5-A-28-13-1-3-000**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	13	Convencional
334	**1-420-5-A-28-15-1-3-000**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	15	Convencional
335	**1-420-5-A-28-20-1-3-000**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	20	Convencional
336	**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
337	**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
338	**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
339	**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
340	**A-490-5-A-28-15-1-3-551**	48.05 MPa at 28 Days Strength Ready Mix Concrete	48.1	28	15	Alta resistencia
341	**A-560-3-A-28-20-1-3-551**	54.92 MPa at 28 Days Strength Ready Mix Concrete	54.9	28	20	Alta resistencia
342	**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
343	**F-420-3-A-18-65-1-3-000**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	65	Especial
344	**F-490-3-A-18-65-1-3-524**	48.05 MPa at 18 Days Strength Ready Mix Concrete	48.1	18	65	Especial
345	**I-420-5-A-28-15-1-3-63X**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	15	Especial
346	**J-420-3-A-28-60-1-3-60O**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	60	Especial
347	**O-420-3-A-18-18-1-3-000**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	18	Industrializado
348	**O-420-3-A-18-18-1-3-009**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	18	Industrializado
349	**O-420-3-A-18-23-1-3-000**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	23	Industrializado
350	**O-420-5-A-18-13-1-3-000**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	13	Industrializado
351	**O-420-5-A-18-15-1-3-000**	41.19 MPa at 18 Days Strength Ready Mix Concrete	41.2	18	15	Industrializado
352	**O-490-3-A-18-15-1-3-406**	48.05 MPa at 18 Days Strength Ready Mix Concrete	48.1	18	15	Industrializado
353	**O-490-3-A-18-23-1-3-407**	48.05 MPa at 18 Days Strength Ready Mix Concrete	48.1	18	23	Industrializado
354	**O-560-3-A-18-23-1-3-407**	54.92 MPa at 18 Days Strength Ready Mix Concrete	54.9	18	23	Industrializado
355	**T-420-5-A-28-20-1-3-000**	41.19 MPa at 28 Days Strength Ready Mix Concrete	41.2	28	20	Tremie

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.

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 are not included. The following figure depicts the cradle-to-gate system boundary considered in this study:

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

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	Manufacturing	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 a 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]

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

4.5.2 Module A3: Production

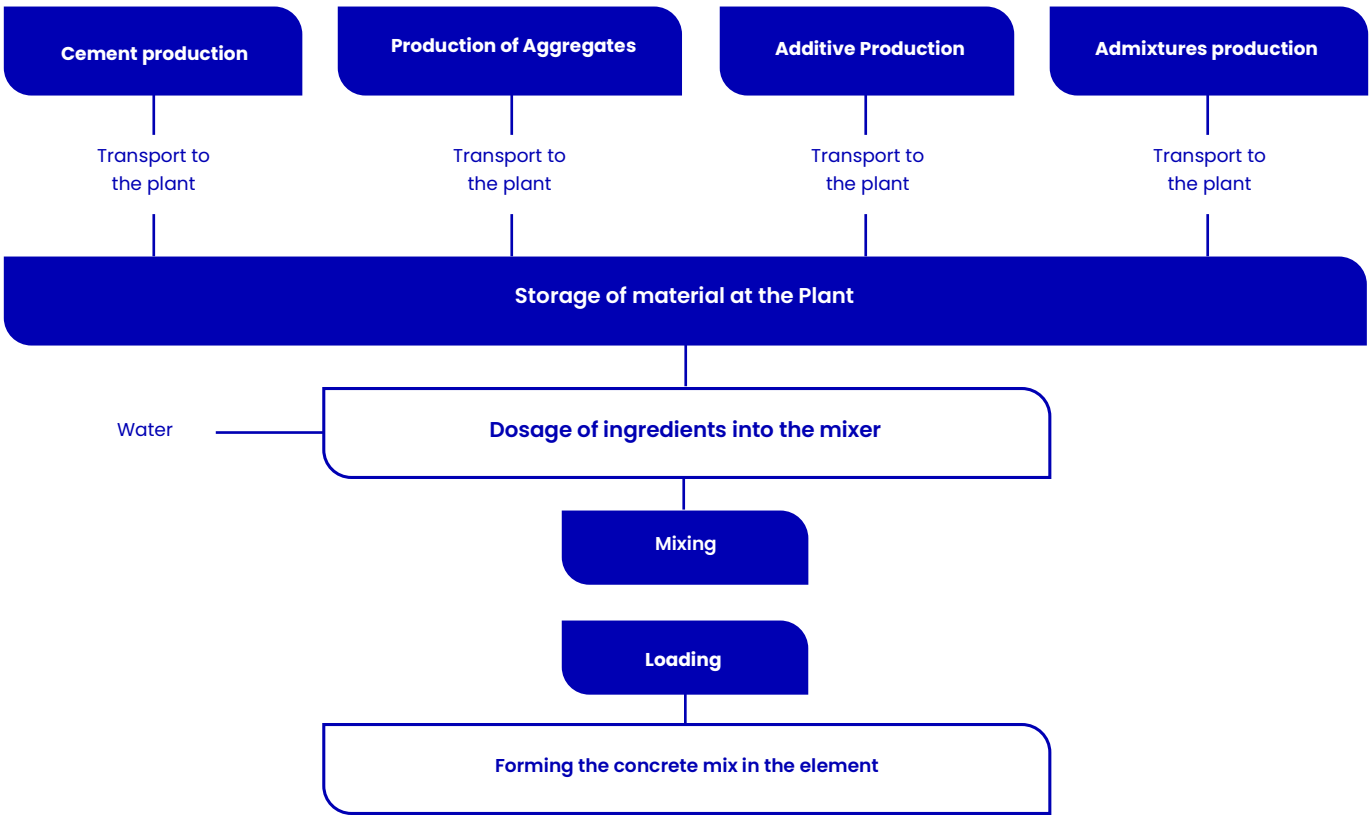

Figure 3. Concrete Production - Inputs and Processes System

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.

  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.

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

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

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 <15MPa

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	207	0.06	8.40E-06	1.10	0.21	23.66	1.18E-004	1353.73
1-105-5-A-28-13-1-3-000	216	0.06	8.57E-06	1.14	0.22	24.41	1.20E-004	1388.89
1-105-5-A-28-15-1-3-000	215	0.06	8.54E-06	1.13	0.22	24.18	1.19E-004	1378.05
1-105-5-A-28-15-1-3-55A	220	0.06	8.53E-06	1.15	0.22	24.53	1.18E-004	1389.12
1-105-5-A-28-20-1-3-000	216	0.06	8.64E-06	1.13	0.22	24.13	1.19E-004	1378.56
1-140-3-A-28-10-0-3-000	245	0.07	9.23E-06	1.24	0.25	25.94	1.71E-004	1459.27
1-140-3-A-28-15-1-3-000	250	0.07	9.33E-06	1.25	0.26	26.26	1.72E-004	1474.22
1-140-5-A-28-10-0-3-000	227	0.06	8.78E-06	1.18	0.23	25.22	1.20E-004	1428.79
1-140-5-A-28-13-1-3-000	229	0.06	8.74E-06	1.19	0.23	25.30	1.19E-004	1428.11
1-140-5-A-28-15-1-3-000	227	0.06	8.79E-06	1.18	0.23	25.00	1.20E-004	1418.31
1-140-5-A-28-15-1-3-55A	261	0.07	9.40E-06	1.33	0.26	28.23	1.25E-004	1574.17
1-140-5-A-28-20-1-3-000	236	0.07	9.06E-06	1.22	0.24	25.73	1.21E-004	1459.40
M-105-0-A-28-13-1-3-000	255	0.07	1.04E-05	1.40	0.27	29.72	1.41E-004	1743.89
M-105-0-A-28-13-1-3-01H	271	0.07	1.11E-05	1.43	0.29	30.09	1.57E-004	1789.04
M-105-0-A-28-13-1-3-020	270	0.07	1.09E-05	1.45	0.28	30.74	1.43E-004	1802.09
M-105-0-A-28-13-1-3-021	256	0.07	1.07E-05	1.39	0.27	29.64	1.41E-004	1759.45
M-105-0-A-28-13-1-3-061	263	0.07	1.07E-05	1.42	0.28	29.96	1.58E-004	1765.09
M-105-0-A-28-15-1-3-000	258	0.07	1.06E-05	1.41	0.27	29.88	1.41E-004	1755.30
M-105-0-A-28-15-1-3-020	269	0.07	1.09E-05	1.44	0.28	30.53	1.42E-004	1795.91
M-105-0-A-28-15-1-3-04J	270	0.07	1.08E-05	1.43	0.28	30.00	1.47E-004	1767.45
M-105-0-A-28-15-1-3-062	266	0.07	1.06E-05	1.41	0.28	29.79	1.37E-004	1750.48
M-105-0-A-28-20-1-3-000	267	0.07	1.07E-05	1.44	0.28	30.55	1.41E-004	1786.13
M-125-0-A-28-13-1-3-000	270	0.07	1.07E-05	1.45	0.28	30.68	1.41E-004	1788.12
M-125-0-A-28-13-1-3-01H	283	0.08	1.15E-05	1.50	0.30	31.35	1.62E-004	1858.50

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**
M-125-0-A-28-13-1-3-020	275	0.07	1.09E-05	1.47	0.29	31.09	1.43E-004	1817.81
M-125-0-A-28-13-1-3-021	282	0.07	1.12E-05	1.49	0.29	31.41	1.44E-004	1846.39
M-125-0-A-28-15-1-3-000	270	0.07	1.07E-05	1.45	0.28	30.61	1.41E-004	1786.62
M-125-0-A-28-15-1-3-01P	278	0.08	1.11E-05	1.47	0.30	30.73	1.69E-004	1809.48
M-125-0-A-28-15-1-3-021	274	0.07	1.11E-05	1.46	0.29	30.80	1.42E-004	1818.27
M-125-0-A-28-15-1-3-060	261	0.07	1.08E-05	1.43	0.28	30.20	1.51E-004	1782.04
M-125-0-A-28-15-1-3-061	279	0.08	1.11E-05	1.48	0.30	31.09	1.60E-004	1823.28
M-140-0-A-28-13-1-3-000	273	0.07	1.08E-05	1.47	0.28	31.12	1.43E-004	1811.70
M-140-0-A-28-13-1-3-004	286	0.08	1.10E-05	1.51	0.30	31.72	1.44E-004	1883.46
M-140-0-A-28-20-1-3-01L	322	0.10	1.31E-05	1.68	0.36	34.33	2.41E-004	2101.17
P-036-5-A-28-13-0-3-000	267	0.07	9.31E-06	1.32	0.27	27.77	1.20E-004	1535.13
P-039-5-A-28-13-0-3-000	296	0.08	9.84E-06	1.44	0.30	29.99	1.23E-004	1642.22
P-039-5-A-28-13-0-3-014	289	0.09	1.08E-05	1.43	0.31	29.25	2.05E-004	1678.50
P-039-5-A-28-15-1-3-000	294	0.08	9.89E-06	1.44	0.30	30.00	1.23E-004	1649.79
P-040-5-A-03-13-0-3-000	409	0.09	1.39E-05	1.89	0.41	38.19	1.30E-004	2166.32
P-040-5-A-28-15-1-3-000	299	0.08	9.96E-06	1.46	0.30	30.32	1.23E-004	1664.27
P-041-5-A-03-13-0-3-000	402	0.09	1.38E-05	1.87	0.41	37.79	1.31E-004	2149.55
P-041-5-A-28-13-0-3-000	317	0.08	1.02E-05	1.52	0.32	31.53	1.24E-004	1716.39
P-041-5-A-28-13-0-3-013	313	0.08	1.02E-05	1.50	0.31	31.12	1.26E-004	1702.87
P-042-5-A-03-13-0-3-000	420	0.10	1.42E-05	1.94	0.42	39.10	1.32E-004	2218.26
P-042-5-A-07-13-0-3-000	403	0.09	1.37E-05	1.86	0.41	37.59	1.29E-004	2132.51
P-042-5-A-28-10-0-3-000	298	0.08	9.87E-06	1.45	0.30	30.18	1.22E-004	1650.20
P-042-5-A-28-13-0-3-000	311	0.08	1.01E-05	1.49	0.31	31.05	1.22E-004	1691.40
P-042-5-A-28-15-1-3-000	316	0.08	1.03E-05	1.52	0.32	31.47	1.22E-004	1720.28
P-042-5-A-28-18-0-3-530	462	0.10	1.51E-05	2.10	0.46	42.11	1.36E-004	2366.68
P-043-5-A-03-13-0-3-000	452	0.10	1.51E-05	2.08	0.46	41.88	1.37E-004	2367.85
P-043-5-A-07-13-0-3-000	395	0.09	1.36E-05	1.84	0.40	37.20	1.30E-004	2113.10
P-043-5-A-28-10-0-3-000	310	0.08	1.01E-05	1.49	0.31	31.04	1.23E-004	1691.47
P-043-5-A-28-13-0-3-000	319	0.08	1.02E-05	1.52	0.32	31.51	1.21E-004	1714.13
P-043-5-A-28-13-0-3-025	333	0.09	1.14E-05	1.60	0.35	32.62	1.93E-004	1826.36
P-043-5-A-28-18-0-3-530	465	0.10	1.51E-05	2.11	0.47	42.20	1.35E-004	2368.21

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**
P-045-5-A-03-13-0-3-000	457	0.10	1.52E-05	2.09	0.46	41.89	1.35E-004	2369.43
P-045-5-A-07-13-0-3-000	405	0.09	1.38E-05	1.88	0.41	37.96	1.31E-004	2154.16
P-045-5-A-14-13-0-3-000	374	0.09	1.14E-05	1.75	0.37	35.90	1.29E-004	1933.17
P-045-5-A-28-10-0-3-000	312	0.08	1.02E-05	1.51	0.31	31.29	1.24E-004	1707.26
P-045-5-A-28-10-0-3-534	315	0.08	1.06E-05	1.53	0.32	31.55	1.27E-004	1741.21
P-045-5-A-28-13-0-3-000	331	0.08	1.07E-05	1.57	0.33	32.44	1.27E-004	1768.60
P-045-5-A-28-18-0-3-530	477	0.11	1.54E-05	2.16	0.48	43.14	1.36E-004	2418.94
R-010-0-A-28-20-0-3-000	148	0.05	7.61E-06	0.89	0.16	19.59	1.09E-004	1206.17
R-020-0-A-28-20-0-3-000	175	0.05	8.26E-06	1.02	0.19	22.12	1.15E-004	1336.23
R-060-0-A-28-20-0-3-000	219	0.06	9.05E-06	1.19	0.23	25.38	1.17E-004	1494.15
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**
1-105-5-A-28-10-0-3-000	54.20	0.00	54.20	1391.10	0.00	1391.10	28.40	16.47	200.08	3.19
1-105-5-A-28-13-1-3-000	56.47	0.00	56.47	1426.63	0.00	1426.63	23.71	17.48	212.34	3.21
1-105-5-A-28-15-1-3-000	56.08	0.00	56.08	1415.06	0.00	1415.06	24.25	17.40	211.38	3.16
1-105-5-A-28-15-1-3-55A	57.32	0.00	57.32	1426.91	0.00	1426.91	36.20	18.04	219.15	3.14
1-105-5-A-28-20-1-3-000	56.55	0.00	56.55	1415.14	0.00	1415.14	20.22	17.64	214.32	3.14
1-140-3-A-28-10-0-3-000	66.23	0.00	66.23	1513.97	0.00	1513.97	31.40	20.91	254.06	2.29
1-140-3-A-28-15-1-3-000	67.56	0.00	67.56	1528.72	0.00	1528.72	27.64	21.55	261.87	2.28
1-140-5-A-28-10-0-3-000	59.08	0.00	59.08	1466.72	0.00	1466.72	29.33	18.75	227.82	3.19
1-140-5-A-28-13-1-3-000	59.58	0.00	59.58	1465.59	0.00	1465.59	27.70	19.06	231.53	3.15
1-140-5-A-28-15-1-3-000	58.93	0.00	58.93	1455.22	0.00	1455.22	28.91	18.76	227.89	3.15
1-140-5-A-28-15-1-3-55A	66.82	0.00	66.82	1612.05	0.00	1612.05	52.90	22.24	270.24	3.26
1-140-5-A-28-20-1-3-000	61.11	0.00	61.11	1495.84	0.00	1495.84	24.09	19.76	240.13	3.14

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-105-0-A-28-13-1-3-000	62.06	0.00	62.06	1743.89	0.00	1743.89	30.19	19.87	241.35	3.07
M-105-0-A-28-13-1-3-01H	66.39	0.00	66.39	1789.04	0.00	1789.04	32.91	21.34	259.23	2.96
M-105-0-A-28-13-1-3-020	65.25	0.00	65.25	1802.49	0.00	1802.49	24.86	21.29	258.69	3.08
M-105-0-A-28-13-1-3-021	61.49	0.00	61.49	1759.45	0.00	1759.45	30.94	19.56	237.69	3.06
M-105-0-A-28-13-1-3-061	65.39	0.00	65.39	1765.09	0.00	1765.09	32.49	20.78	252.45	3.02
M-105-0-A-28-15-1-3-000	62.57	0.00	62.57	1755.30	0.00	1755.30	31.31	20.11	244.30	3.05
M-105-0-A-28-15-1-3-020	64.95	0.00	64.95	1795.91	0.00	1795.91	28.59	21.24	258.00	3.04
M-105-0-A-28-15-1-3-04J	65.90	0.00	65.90	1767.45	0.00	1767.45	33.44	21.60	262.38	2.92
M-105-0-A-28-15-1-3-062	64.22	0.00	64.22	1750.48	0.00	1750.48	33.21	21.20	257.59	2.88
M-105-0-A-28-20-1-3-000	64.95	0.00	64.95	1786.13	0.00	1786.13	32.00	21.27	258.40	3.04
M-125-0-A-28-13-1-3-000	65.60	0.00	65.60	1788.12	0.00	1788.12	33.52	21.62	262.69	2.99
M-125-0-A-28-13-1-3-01H	69.28	0.00	69.28	1858.50	0.00	1858.50	34.94	22.45	272.78	3.00
M-125-0-A-28-13-1-3-020	66.46	0.00	66.46	1817.81	0.00	1817.81	29.98	21.94	266.56	3.05
M-125-0-A-28-13-1-3-021	67.71	0.00	67.71	1846.39	0.00	1846.39	21.82	22.49	273.20	3.05
M-125-0-A-28-15-1-3-000	65.49	0.00	65.49	1786.62	0.00	1786.62	33.55	21.58	262.15	3.00
M-125-0-A-28-15-1-3-01P	69.89	0.00	69.89	1809.48	0.00	1809.48	34.93	22.55	273.96	2.95
M-125-0-A-28-15-1-3-021	65.70	0.00	65.70	1818.27	0.00	1818.27	30.09	21.60	262.45	3.02
M-125-0-A-28-15-1-3-060	63.87	0.00	63.87	1782.04	0.00	1782.04	31.74	20.25	246.06	3.09
M-125-0-A-28-15-1-3-061	69.19	0.00	69.19	1823.28	0.00	1823.28	34.56	22.53	273.68	3.00
M-140-0-A-28-13-1-3-000	66.41	0.00	66.41	1811.70	0.00	1811.70	33.39	21.89	265.92	3.04
M-140-0-A-28-13-1-3-004	70.91	0.00	70.91	1863.90	21.08	1884.98	35.74	23.08	280.47	3.05
M-140-0-A-28-20-1-3-01L	85.99	0.00	85.99	2080.09	21.08	2101.17	40.81	25.98	315.60	3.24
P-036-5-A-28-13-0-3-000	69.16	0.00	69.16	1579.82	0.00	1579.82	36.71	23.56	286.30	3.14
P-039-5-A-28-13-0-3-000	76.12	0.00	76.12	1687.09	0.00	1687.09	26.56	26.80	325.62	3.14
P-039-5-A-28-13-0-3-014	80.05	0.00	80.05	1722.00	0.00	1722.00	39.14	24.99	303.59	3.30
P-039-5-A-28-15-1-3-000	75.29	0.00	75.29	1692.09	0.00	1692.09	40.80	26.47	321.65	3.11
P-040-5-A-03-13-0-3-000	100.43	0.00	100.43	2209.46	0.00	2209.46	23.23	38.14	463.42	3.05
P-040-5-A-28-15-1-3-000	76.44	0.00	76.44	1706.75	0.00	1706.75	42.00	27.04	328.51	3.10
P-041-5-A-03-13-0-3-000	98.92	0.00	98.92	2193.30	0.00	2193.30	22.98	37.35	453.80	3.08
P-041-5-A-28-13-0-3-000	81.08	0.00	81.08	1760.69	0.00	1760.69	21.31	29.18	354.58	3.11

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-28-13-0-3-013	80.37	0.00	80.37	1746.97	0.00	1746.97	31.70	28.75	349.27	3.09
P-042-5-A-03-13-0-3-000	102.95	0.00	102.95	2261.98	0.00	2261.98	23.75	39.25	476.91	3.07
P-042-5-A-07-13-0-3-000	99.10	0.00	99.10	2175.49	0.00	2175.49	23.28	37.62	457.04	3.01
P-042-5-A-28-10-0-3-000	76.60	0.00	76.60	1695.66	0.00	1695.66	41.82	27.06	328.71	3.13
P-042-5-A-28-13-0-3-000	79.44	0.00	79.44	1735.80	0.00	1735.80	43.96	28.49	346.18	3.08
P-042-5-A-28-15-1-3-000	80.33	0.00	80.33	1761.73	0.00	1761.73	44.73	29.01	352.44	3.03
P-042-5-A-28-18-0-3-530	113.14	0.00	113.14	2413.78	0.00	2413.78	1.08	43.91	533.49	3.12
P-043-5-A-03-13-0-3-000	110.45	0.00	110.45	2413.24	0.00	2413.24	24.66	42.50	516.37	3.18
P-043-5-A-07-13-0-3-000	97.33	0.00	97.33	2156.74	0.00	2156.74	22.66	36.65	445.35	3.06
P-043-5-A-28-10-0-3-000	79.34	0.00	79.34	1736.85	0.00	1736.85	38.68	28.35	344.41	3.12
P-043-5-A-28-13-0-3-000	81.36	0.00	81.36	1757.73	0.00	1757.73	45.88	29.53	358.77	3.02
P-043-5-A-28-13-0-3-025	89.48	0.00	89.48	1869.76	0.00	1869.76	46.78	30.17	366.50	3.21
P-043-5-A-28-18-0-3-530	113.86	0.00	113.86	2415.66	0.00	2415.66	1.09	44.32	538.42	3.08
P-045-5-A-03-13-0-3-000	111.41	0.00	111.41	2412.15	0.00	2412.15	23.65	43.26	525.60	3.02
P-045-5-A-07-13-0-3-000	99.57	0.00	99.57	2198.15	0.00	2198.15	24.30	37.66	457.60	3.09
P-045-5-A-14-13-0-3-000	94.26	0.00	94.26	1977.87	0.00	1977.87	26.10	35.35	429.49	3.09
P-045-5-A-28-10-0-3-000	79.83	0.00	79.83	1752.88	0.00	1752.88	44.07	28.55	346.89	3.12
P-045-5-A-28-10-0-3-534	80.38	0.00	80.38	1787.85	0.00	1787.85	53.88	28.63	347.87	3.19
P-045-5-A-28-13-0-3-000	84.40	0.00	84.40	1813.80	0.00	1813.80	16.31	30.68	372.70	3.13
P-045-5-A-28-18-0-3-530	116.62	0.00	116.62	2465.44	0.00	2465.44	1.12	45.64	554.55	3.06
R-010-0-A-28-20-0-3-000	36.72	0.00	36.72	1206.17	0.00	1206.17	8.30	9.42	114.42	2.59
R-020-0-A-28-20-0-3-000	43.06	0.00	43.06	1336.23	0.00	1336.23	9.14	12.15	147.59	2.70
R-060-0-A-28-20-0-3-000	53.21	0.00	53.21	1494.15	0.00	1494.15	25.97	17.03	206.92	2.63
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**
1-175-3-A-28-13-1-3-000	270	0.08	9.58E-06	1.33	0.28	27.68	1.69E-004	1539.03
1-175-3-A-28-15-1-3-000	262	0.07	9.50E-06	1.30	0.27	27.23	1.71E-004	1520.12
1-175-5-A-28-15-1-3-000	201	0.06	7.77E-06	1.02	0.20	21.59	1.04E-004	1231.61
1-175-5-A-28-20-1-3-000	249	0.07	9.28E-06	1.26	0.25	26.47	1.23E-004	1492.15
M-175-0-A-28-13-1-3-000	322	0.08	1.13E-05	1.64	0.33	34.62	1.47E-004	1960.12
M-175-0-A-28-15-1-3-004	320	0.08	1.18E-05	1.64	0.33	34.31	1.49E-004	2016.46
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**
1-175-3-A-28-13-1-3-000	71.95	0.00	71.95	1591.86	0.00	1591.86	36.92	23.84	289.70	2.22
1-175-3-A-28-15-1-3-000	70.17	0.00	70.17	1573.69	0.00	1573.69	35.67	22.87	277.87	2.27
1-175-5-A-28-15-1-3-000	52.54	0.00	52.54	1261.57	0.00	1261.57	22.42	16.92	205.63	2.56
1-175-5-A-28-20-1-3-000	64.32	0.00	64.32	1528.76	0.00	1528.76	19.98	21.31	258.95	3.12
M-175-0-A-28-13-1-3-000	78.31	0.00	78.31	1960.12	0.00	1960.12	33.53	27.57	334.98	2.97
M-175-0-A-28-15-1-3-004	78.96	0.00	78.96	1995.38	21.08	2016.46	21.58	26.81	325.73	3.02
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	329	0.09	1.24E-05	1.58	0.34	32.22	1.80E-004	1863.66
1-210-3-A-03-13-1-3-001	343	0.09	1.27E-05	1.63	0.35	33.15	1.79E-004	1911.86
1-210-3-A-03-15-1-3-000	330	0.09	1.25E-05	1.59	0.34	32.24	1.80E-004	1870.71
1-210-3-A-03-15-1-3-001	334	0.09	1.24E-05	1.59	0.34	32.34	1.74E-004	1871.27
1-210-3-A-03-15-1-3-004	342	0.09	1.27E-05	1.63	0.35	32.98	1.80E-004	1954.18
1-210-3-A-03-15-1-3-020	325	0.08	1.26E-05	1.57	0.34	31.83	1.79E-004	1864.40
1-210-3-A-07-13-1-3-000	295	0.08	1.15E-05	1.45	0.31	29.71	1.74E-004	1730.75
1-210-3-A-28-10-0-3-000	289	0.08	1.00E-05	1.41	0.29	29.27	1.76E-004	1617.96
1-210-3-A-28-13-1-3-000	290	0.08	1.00E-05	1.41	0.30	29.31	1.72E-004	1622.63
1-210-3-A-28-13-1-3-001	286	0.08	9.86E-06	1.39	0.29	28.96	1.69E-004	1602.07
1-210-3-A-28-13-1-3-008	296	0.08	1.02E-05	1.44	0.30	29.75	1.72E-004	1694.29
1-210-3-A-28-15-1-3-000	286	0.08	9.91E-06	1.40	0.29	29.05	1.72E-004	1606.61
1-210-3-A-28-15-1-3-001	316	0.08	1.05E-05	1.52	0.32	31.48	1.77E-004	1723.68
1-210-3-A-28-15-1-3-004	324	0.09	1.08E-05	1.54	0.33	31.79	1.80E-004	1790.43
1-210-3-A-28-15-1-3-01Z	292	0.08	1.02E-05	1.41	0.30	29.27	1.73E-004	1634.48
1-210-3-A-28-15-1-3-060	286	0.08	1.01E-05	1.40	0.29	29.04	1.79E-004	1616.91
1-210-3-A-28-15-1-3-061	300	0.09	1.06E-05	1.46	0.31	30.14	2.00E-004	1684.60
1-210-3-A-28-20-1-3-000	308	0.08	1.04E-05	1.48	0.31	30.60	1.72E-004	1690.82
1-210-5-A-03-13-1-3-000	297	0.08	1.15E-05	1.48	0.31	30.45	1.26E-004	1772.56
1-210-5-A-03-13-1-3-001	303	0.08	1.16E-05	1.49	0.31	30.68	1.25E-004	1783.55
1-210-5-A-03-13-1-3-024	317	0.09	1.25E-05	1.56	0.34	31.79	1.73E-004	1877.99
1-210-5-A-03-15-1-3-000	305	0.08	1.17E-05	1.50	0.31	30.98	1.26E-004	1800.10
1-210-5-A-03-20-1-3-000	309	0.08	1.19E-05	1.52	0.32	31.27	1.27E-004	1820.09
1-210-5-A-07-13-1-3-000	271	0.07	1.09E-05	1.37	0.28	28.45	1.24E-004	1665.07
1-210-5-A-07-13-1-3-024	280	0.08	1.16E-05	1.41	0.30	28.96	1.70E-004	1727.00

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-07-13-1-3-04Z	296	0.08	1.17E-05	1.47	0.31	30.16	1.46E-004	1774.58
1-210-5-A-07-15-1-3-000	269	0.07	1.09E-05	1.36	0.28	28.31	1.24E-004	1662.14
1-210-5-A-07-15-1-3-024	279	0.08	1.16E-05	1.41	0.30	28.82	1.70E-004	1722.18
1-210-5-A-07-20-1-3-000	277	0.07	1.11E-05	1.39	0.29	28.71	1.23E-004	1685.51
1-210-5-A-14-13-1-3-000	258	0.07	9.45E-06	1.31	0.26	27.70	1.23E-004	1554.31
1-210-5-A-14-15-1-3-000	249	0.07	9.30E-06	1.28	0.25	26.93	1.22E-004	1518.96
1-210-5-A-14-15-1-3-001	241	0.07	9.06E-06	1.24	0.25	26.17	1.20E-004	1477.00
1-210-5-A-28-10-0-3-000	262	0.07	9.47E-06	1.32	0.27	27.87	1.22E-004	1559.65
1-210-5-A-28-10-0-3-001	255	0.07	9.08E-06	1.28	0.26	27.11	1.20E-004	1509.66
1-210-5-A-28-13-1-3-000	269	0.07	9.49E-06	1.34	0.27	28.30	1.22E-004	1576.46
1-210-5-A-28-13-1-3-001	269	0.07	9.34E-06	1.34	0.27	28.26	1.21E-004	1565.31
1-210-5-A-28-13-1-3-01P	280	0.08	9.98E-06	1.39	0.29	28.80	1.53E-004	1619.68
1-210-5-A-28-13-1-3-025	281	0.08	1.05E-05	1.41	0.30	29.03	1.91E-004	1661.03
1-210-5-A-28-13-1-3-04M	296	0.11	1.22E-05	1.49	0.34	29.94	2.97E-004	1790.67
1-210-5-A-28-13-1-3-04W	289	0.09	1.20E-05	1.47	0.32	29.62	2.04E-004	1767.88
1-210-5-A-28-15-1-3-000	273	0.07	9.60E-06	1.36	0.28	28.61	1.22E-004	1592.96
1-210-5-A-28-15-1-3-001	280	0.07	9.53E-06	1.38	0.28	28.94	1.20E-004	1598.65
1-210-5-A-28-15-1-3-004	293	0.08	9.97E-06	1.44	0.29	30.05	1.25E-004	1706.09
1-210-5-A-28-15-1-3-009	274	0.07	9.58E-06	1.35	0.28	28.22	1.19E-004	1619.02
1-210-5-A-28-15-1-3-025	285	0.09	1.06E-05	1.42	0.31	29.33	1.91E-004	1677.63
1-210-5-A-28-15-1-3-03Z	281	0.08	9.98E-06	1.39	0.29	29.00	1.45E-004	1672.01
1-210-5-A-28-15-1-3-04M	303	0.11	1.24E-05	1.52	0.35	30.47	3.00E-004	1821.27
1-210-5-A-28-15-1-3-04W	285	0.09	1.19E-05	1.46	0.31	29.26	2.01E-004	1751.15
1-210-5-A-28-15-1-3-061	275	0.08	9.87E-06	1.38	0.28	28.74	1.44E-004	1613.30
1-210-5-A-28-15-1-3-55A	280	0.07	9.76E-06	1.39	0.28	29.13	1.22E-004	1623.27
1-210-5-A-28-20-1-3-000	286	0.07	9.89E-06	1.41	0.29	29.60	1.23E-004	1642.87
1-210-5-A-28-20-1-3-04W	293	0.09	1.22E-05	1.49	0.32	29.89	2.05E-004	1789.01

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-28-20-1-3-061	277	0.08	9.96E-06	1.38	0.29	28.86	1.44E-004	1622.85
1-245-3-A-03-13-1-3-001	376	0.09	1.34E-05	1.76	0.39	35.55	1.77E-004	2039.34
1-245-3-A-14-13-1-3-000	291	0.08	1.02E-05	1.42	0.30	29.47	1.75E-004	1635.38
1-245-3-A-28-10-0-3-000	286	0.08	1.02E-05	1.39	0.29	28.85	1.79E-004	1604.70
1-245-3-A-28-13-1-3-000	291	0.08	1.02E-05	1.42	0.30	29.46	1.74E-004	1635.23
1-245-3-A-28-13-1-3-001	310	0.08	1.13E-05	1.53	0.32	31.27	1.83E-004	1767.20
1-245-3-A-28-15-1-3-000	307	0.08	1.06E-05	1.48	0.31	30.66	1.80E-004	1697.47
1-245-3-A-28-20-1-3-001	301	0.08	1.07E-05	1.46	0.31	30.16	1.79E-004	1682.56
1-245-5-A-03-13-1-3-000	366	0.09	1.31E-05	1.75	0.37	35.71	1.33E-004	2044.91
1-245-5-A-03-15-1-3-000	342	0.08	1.26E-05	1.65	0.35	33.69	1.28E-004	1947.10
1-245-5-A-14-13-1-3-000	273	0.07	9.67E-06	1.37	0.28	28.69	1.23E-004	1600.28
1-245-5-A-14-15-1-3-001	273	0.07	9.68E-06	1.36	0.28	28.46	1.23E-004	1588.77
1-245-5-A-28-10-0-3-000	268	0.07	9.60E-06	1.35	0.27	28.44	1.25E-004	1586.84
1-245-5-A-28-13-1-3-000	268	0.07	9.60E-06	1.35	0.27	28.48	1.23E-004	1589.72
1-245-5-A-28-13-1-3-001	274	0.07	9.62E-06	1.37	0.28	28.68	1.22E-004	1595.80
1-245-5-A-28-15-1-3-000	273	0.07	9.76E-06	1.37	0.28	28.80	1.23E-004	1610.98
1-245-5-A-28-15-1-3-001	316	0.08	1.04E-05	1.53	0.32	31.95	1.27E-004	1755.51
1-280-3-A-03-13-1-3-000	407	0.10	1.43E-05	1.89	0.42	37.90	1.80E-004	2174.27
1-280-3-A-03-13-1-3-001	433	0.10	1.50E-05	2.01	0.44	40.23	1.88E-004	2295.84
1-280-3-A-03-15-1-3-001	449	0.11	1.54E-05	2.08	0.46	41.67	1.91E-004	2369.44
1-280-3-A-03-15-1-3-009	425	0.11	1.48E-05	1.97	0.43	39.42	1.83E-004	2301.00
1-280-3-A-03-15-1-3-01O	429	0.12	1.61E-05	2.00	0.46	39.44	2.77E-004	2376.33
1-280-3-A-03-20-1-3-000	417	0.10	1.49E-05	1.95	0.43	39.05	1.84E-004	2251.44
1-280-3-A-07-20-1-3-000	371	0.09	1.34E-05	1.75	0.38	35.29	1.82E-004	2030.98
1-280-3-A-14-13-1-3-000	325	0.09	1.08E-05	1.56	0.33	32.12	1.78E-004	1763.57
1-280-3-A-14-15-1-3-000	325	0.09	1.09E-05	1.56	0.33	32.27	1.77E-004	1774.63
1-280-3-A-14-20-1-3-000	325	0.09	1.09E-05	1.56	0.33	32.13	1.75E-004	1771.62

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**
1-280-3-A-14-20-1-3-001	329	0.09	1.09E-05	1.57	0.33	32.27	1.72E-004	1776.52
1-280-3-A-28-10-0-3-000	307	0.08	1.05E-05	1.49	0.31	30.87	1.76E-004	1703.28
1-280-3-A-28-10-0-3-001	305	0.08	1.03E-05	1.48	0.31	30.59	1.76E-004	1684.25
1-280-3-A-28-13-1-3-000	304	0.08	1.05E-05	1.47	0.31	30.50	1.73E-004	1692.18
1-280-3-A-28-13-1-3-001	324	0.09	1.08E-05	1.55	0.33	31.88	1.78E-004	1751.70
1-280-3-A-28-13-1-3-054	340	0.11	1.25E-05	1.65	0.37	33.00	2.82E-004	1941.91
1-280-3-A-28-15-1-3-000	318	0.08	1.08E-05	1.54	0.32	31.80	1.74E-004	1762.18
1-280-3-A-28-15-1-3-001	320	0.08	1.06E-05	1.53	0.32	31.62	1.72E-004	1736.77
1-280-3-A-28-15-1-3-004	329	0.09	1.10E-05	1.57	0.33	32.35	1.77E-004	1828.17
1-280-3-A-28-15-1-3-060	312	0.08	1.09E-05	1.52	0.32	31.19	1.84E-004	1745.86
1-280-3-A-28-15-1-3-061	311	0.09	1.10E-05	1.52	0.32	31.27	1.99E-004	1756.88
1-280-3-A-28-20-1-3-000	328	0.09	1.11E-05	1.58	0.33	32.61	1.75E-004	1806.60
1-280-3-A-28-20-1-3-001	316	0.08	1.06E-05	1.52	0.32	31.21	1.72E-004	1724.04
1-280-3-A-28-20-1-3-060	332	0.09	1.14E-05	1.60	0.34	32.74	1.90E-004	1826.00
1-280-3-A-28-20-1-3-061	328	0.09	1.13E-05	1.58	0.34	32.18	2.01E-004	1796.29
1-280-3-A-28-20-1-3-62F	299	0.08	1.03E-05	1.44	0.30	29.60	1.70E-004	1646.23
1-280-5-A-03-13-1-3-000	384	0.09	1.37E-05	1.83	0.39	37.19	1.34E-004	2134.36
1-280-5-A-03-13-1-3-001	382	0.09	1.37E-05	1.82	0.39	36.95	1.33E-004	2125.49
1-280-5-A-03-15-1-3-000	378	0.09	1.35E-05	1.80	0.38	36.69	1.33E-004	2106.53
1-280-5-A-03-15-1-3-004	383	0.09	1.37E-05	1.81	0.39	36.71	1.33E-004	2158.88
1-280-5-A-03-15-1-3-009	390	0.09	1.38E-05	1.83	0.40	37.02	1.32E-004	2171.98
1-280-5-A-03-15-1-3-073	393	0.10	1.41E-05	1.86	0.40	37.41	1.48E-004	2208.34
1-280-5-A-07-13-1-3-000	335	0.08	1.24E-05	1.62	0.34	33.20	1.28E-004	1918.07
1-280-5-A-07-13-1-3-00V	324	0.08	1.22E-05	1.58	0.33	32.43	1.40E-004	1884.38
1-280-5-A-07-13-1-3-024	360	0.09	1.35E-05	1.73	0.38	34.79	1.74E-004	2037.68
1-280-5-A-07-15-1-3-000	328	0.08	1.22E-05	1.59	0.34	32.56	1.27E-004	1884.89
1-280-5-A-07-20-1-3-000	348	0.08	1.28E-05	1.68	0.36	34.22	1.30E-004	1981.39

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**
1-280-5-A-14-13-1-3-000	298	0.08	1.02E-05	1.47	0.30	30.79	1.26E-004	1705.31
1-280-5-A-14-15-1-3-000	313	0.08	1.05E-05	1.53	0.31	31.92	1.28E-004	1759.85
1-280-5-A-14-15-1-3-001	337	0.08	1.09E-05	1.62	0.34	33.57	1.29E-004	1837.43
1-280-5-A-28-10-0-3-000	284	0.07	9.86E-06	1.41	0.29	29.65	1.25E-004	1645.33
1-280-5-A-28-13-1-3-000	290	0.07	1.00E-05	1.44	0.29	30.09	1.24E-004	1671.65
1-280-5-A-28-13-1-3-001	299	0.08	1.05E-05	1.48	0.30	30.63	1.24E-004	1715.60
1-280-5-A-28-13-1-3-009	300	0.08	1.01E-05	1.47	0.30	30.55	1.24E-004	1735.01
1-280-5-A-28-13-1-3-024	310	0.09	1.10E-05	1.53	0.32	31.46	1.72E-004	1773.03
1-280-5-A-28-13-1-3-02H	294	0.09	1.16E-05	1.48	0.33	29.99	2.36E-004	1764.14
1-280-5-A-28-13-1-3-04M	322	0.11	1.29E-05	1.61	0.37	32.05	3.09E-004	1910.52
1-280-5-A-28-13-1-3-04W	315	0.09	1.27E-05	1.59	0.35	31.84	2.15E-004	1891.00
1-280-5-A-28-13-1-3-061	292	0.08	1.04E-05	1.46	0.30	30.40	1.49E-004	1705.63
1-280-5-A-28-15-1-3-000	296	0.08	1.02E-05	1.47	0.30	30.67	1.26E-004	1707.13
1-280-5-A-28-15-1-3-001	299	0.08	1.01E-05	1.46	0.30	30.46	1.22E-004	1681.07
1-280-5-A-28-15-1-3-002	297	0.08	1.06E-05	1.47	0.30	30.45	1.25E-004	1714.75
1-280-5-A-28-15-1-3-004	316	0.08	1.06E-05	1.54	0.32	31.96	1.28E-004	1809.26
1-280-5-A-28-15-1-3-009	302	0.08	1.02E-05	1.49	0.30	30.94	1.25E-004	1759.70
1-280-5-A-28-15-1-3-025	308	0.09	1.13E-05	1.52	0.33	31.21	1.94E-004	1779.21
1-280-5-A-28-15-1-3-04W	310	0.09	1.26E-05	1.57	0.34	31.35	2.14E-004	1869.14
1-280-5-A-28-15-1-3-060	293	0.08	1.04E-05	1.46	0.30	30.42	1.37E-004	1706.62
1-280-5-A-28-15-1-3-061	299	0.08	1.06E-05	1.48	0.31	30.72	1.49E-004	1722.91
1-280-5-A-28-15-1-3-55A	344	0.08	1.13E-05	1.66	0.34	34.36	1.29E-004	1899.63
1-280-5-A-28-15-1-3-66L	351	0.08	1.15E-05	1.68	0.35	34.77	1.29E-004	1928.57
1-280-5-A-28-20-1-3-000	303	0.08	1.04E-05	1.49	0.31	31.10	1.26E-004	1724.84
1-280-5-A-28-20-1-3-001	296	0.08	1.02E-05	1.46	0.30	30.39	1.23E-004	1688.28
1-280-5-A-28-20-1-3-03Z	319	0.09	1.10E-05	1.56	0.33	32.11	1.53E-004	1842.59
1-280-5-A-28-20-1-3-060	298	0.08	1.04E-05	1.48	0.30	30.67	1.37E-004	1711.90

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-28-20-1-3-061	309	0.08	1.08E-05	1.52	0.32	31.46	1.50E-004	1761.41
1-315-3-A-07-15-1-3-001	380	0.09	1.37E-05	1.78	0.39	35.82	1.77E-004	2064.35
1-315-5-A-03-15-1-3-000	395	0.09	1.40E-05	1.86	0.40	37.78	1.37E-004	2170.55
1-315-5-A-07-15-1-3-000	356	0.09	1.29E-05	1.71	0.36	34.79	1.30E-004	2001.08
1-315-5-A-14-15-1-3-000	317	0.08	1.05E-05	1.55	0.32	32.34	1.27E-004	1778.07
1-315-5-A-28-13-1-3-000	1236	0.29	3.49E-05	6.01	1.23	125.10	4.04E-004	6565.66
1-315-5-A-28-13-1-3-001	344	0.08	1.09E-05	1.65	0.34	34.25	1.28E-004	1865.42
1-315-5-A-28-15-1-3-000	336	0.08	1.09E-05	1.62	0.34	33.57	1.28E-004	1838.85
1-315-5-A-28-15-1-3-004	345	0.09	1.11E-05	1.65	0.34	34.15	1.29E-004	1914.13
1-350-3-A-03-15-1-3-000	499	0.11	1.65E-05	2.26	0.50	45.05	1.87E-004	2552.24
1-350-3-A-03-15-1-3-004	507	0.12	1.68E-05	2.29	0.51	45.57	1.87E-004	2632.68
1-350-3-A-07-20-1-3-000	458	0.11	1.57E-05	2.11	0.47	42.09	1.87E-004	2403.22
1-350-3-A-28-13-1-3-000	323	0.08	1.09E-05	1.55	0.33	31.98	1.74E-004	1770.22
1-350-3-A-28-13-1-3-001	346	0.09	1.14E-05	1.63	0.35	33.35	1.81E-004	1828.31
1-350-3-A-28-15-1-3-000	352	0.09	1.14E-05	1.67	0.36	34.26	1.79E-004	1871.59
1-350-3-A-28-15-1-3-001	348	0.09	1.12E-05	1.64	0.35	33.75	1.74E-004	1841.06
1-350-3-A-28-15-1-3-00V	340	0.11	1.26E-05	1.65	0.37	33.16	2.82E-004	1911.30
1-350-3-A-28-15-1-3-55A	342	0.09	1.15E-05	1.52	0.35	30.46	1.27E-004	1705.63
1-350-3-A-28-20-1-3-000	365	0.09	1.15E-05	1.72	0.37	35.27	1.79E-004	1915.67
1-350-3-A-28-20-1-3-060	352	0.09	1.15E-05	1.67	0.36	34.23	1.92E-004	1877.21
1-350-3-A-28-20-1-3-061	368	0.10	1.19E-05	1.74	0.38	35.42	2.09E-004	1945.58
1-350-5-A-03-15-1-3-000	448	0.10	1.51E-05	2.07	0.45	41.64	1.35E-004	2369.34
1-350-5-A-03-15-1-3-001	482	0.11	1.58E-05	2.20	0.48	44.21	1.38E-004	2499.40
1-350-5-A-07-13-1-3-000	399	0.09	1.40E-05	1.89	0.41	38.31	1.36E-004	2193.30
1-350-5-A-07-15-1-3-000	401	0.09	1.40E-05	1.89	0.41	38.34	1.35E-004	2191.32
1-350-5-A-28-13-1-3-000	315	0.08	1.06E-05	1.54	0.32	32.12	1.27E-004	1773.73
1-350-5-A-28-13-1-3-024	320	0.09	1.12E-05	1.57	0.33	32.28	1.73E-004	1814.79

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-28-15-1-3-000	328	0.08	1.08E-05	1.59	0.33	33.06	1.28E-004	1815.59
1-350-5-A-28-15-1-3-004	344	0.09	1.10E-05	1.65	0.34	34.11	1.29E-004	1909.42
1-350-5-A-28-15-1-3-55A	338	0.08	1.11E-05	1.63	0.34	33.55	1.25E-004	1855.57
1-350-5-A-28-20-1-3-000	338	0.08	1.12E-05	1.64	0.34	33.77	1.28E-004	1864.79
3-280-3-A-28-13-1-3-000	321	0.09	1.10E-05	1.57	0.33	32.60	1.88E-004	1800.45
3-280-3-A-28-13-1-3-001	328	0.09	1.08E-05	1.57	0.33	32.31	1.74E-004	1773.26
3-280-5-A-28-13-1-3-000	339	0.08	1.09E-05	1.63	0.34	33.81	1.30E-004	1847.67
3-280-5-A-28-13-1-3-66E	341	0.09	1.14E-05	1.61	0.35	33.10	1.85E-004	1876.76
3-280-5-A-28-15-1-3-000	297	0.08	1.01E-05	1.47	0.30	30.66	1.23E-004	1693.55
3-280-5-A-28-15-1-3-009	306	0.08	1.03E-05	1.50	0.31	31.08	1.23E-004	1763.35
3-280-5-A-28-20-1-3-009	349	0.09	1.14E-05	1.67	0.35	34.30	1.28E-004	1935.69
8-210-3-A-28-15-1-3-000	271	0.07	9.63E-06	1.33	0.28	27.61	1.66E-004	1540.22
8-210-3-A-28-20-1-3-000	279	0.08	9.86E-06	1.37	0.28	28.45	1.70E-004	1584.01
8-210-5-A-28-13-1-3-000	350	0.09	1.19E-05	1.77	0.35	37.40	1.56E-004	2048.93
8-280-3-A-28-13-1-3-000	305	0.08	1.04E-05	1.48	0.31	30.54	1.74E-004	1687.22
8-280-3-A-28-15-1-3-000	304	0.08	1.05E-05	1.48	0.31	30.48	1.72E-004	1691.34
8-280-3-A-28-20-1-3-000	317	0.08	1.07E-05	1.52	0.32	31.28	1.72E-004	1729.75
8-280-5-A-28-15-1-3-000	281	0.07	9.87E-06	1.40	0.28	29.37	1.24E-004	1635.26
8-315-5-A-28-15-1-3-000	319	0.08	1.05E-05	1.55	0.32	32.08	1.24E-004	1765.68
8-350-3-A-28-15-1-3-000	355	0.09	1.14E-05	1.68	0.36	34.51	1.79E-004	1884.06
8-350-3-A-28-20-1-3-000	352	0.09	1.12E-05	1.66	0.35	34.27	1.78E-004	1864.93
8-350-5-A-28-15-1-3-000	338	0.08	1.09E-05	1.63	0.34	33.83	1.29E-004	1854.31
C-210-3-A-28-25-1-3-000	285	0.08	1.08E-05	1.42	0.30	29.17	1.92E-004	1677.07
F-210-3-A-18-65-1-3-000	338	0.09	1.32E-05	1.65	0.35	33.24	1.84E-004	1961.99
F-280-3-A-18-65-1-3-000	371	0.10	1.34E-05	1.78	0.39	35.93	2.00E-004	2068.12
F-350-3-A-18-65-1-3-000	373	0.09	1.40E-05	1.79	0.39	35.99	1.75E-004	2105.89
F-350-3-A-18-65-1-3-001	358	0.09	1.37E-05	1.73	0.37	34.90	1.73E-004	2048.65

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-210-3-A-28-15-1-3-004	290	0.08	9.90E-06	1.39	0.29	28.72	1.77E-004	1626.75
I-280-5-A-28-13-1-3-000	284	0.07	9.82E-06	1.40	0.29	29.24	1.24E-004	1616.76
J-210-3-A-28-65-1-3-000	304	0.08	1.13E-05	1.51	0.32	30.90	1.90E-004	1777.18
J-210-3-A-28-65-1-3-464	385	0.12	1.47E-05	1.84	0.43	36.49	3.04E-004	2157.92
J-210-3-A-28-65-1-3-62L	344	0.10	1.22E-05	1.64	0.37	33.24	2.39E-004	1894.33
J-245-3-A-28-65-1-3-000	312	0.09	1.15E-05	1.53	0.33	31.22	1.92E-004	1798.01
J-245-3-A-28-65-1-3-020	324	0.09	1.20E-05	1.56	0.34	31.88	1.99E-004	1834.11
M-210-0-A-28-13-1-3-061	317	0.09	1.20E-05	1.65	0.33	34.42	1.72E-004	1995.66
M-210-0-A-28-15-1-3-05E	335	0.09	1.27E-05	1.72	0.35	35.31	1.62E-004	2109.69
O-210-3-A-18-13-1-3-000	350	0.09	1.27E-05	1.68	0.36	34.47	1.94E-004	1964.56
O-210-3-A-18-15-1-3-000	303	0.08	1.16E-05	1.47	0.31	29.93	1.73E-004	1738.09
O-210-3-A-18-18-1-3-000	313	0.08	1.20E-05	1.51	0.32	30.93	1.73E-004	1798.37
O-210-3-A-18-18-1-3-060	301	0.08	1.19E-05	1.47	0.32	30.05	1.84E-004	1762.85
O-210-3-A-18-20-1-3-000	309	0.08	1.19E-05	1.51	0.32	30.77	1.66E-004	1797.35
O-210-3-A-18-23-1-3-000	320	0.08	1.22E-05	1.55	0.33	31.71	1.68E-004	1851.09
O-210-3-A-20-20-1-3-000	320	0.08	1.11E-05	1.55	0.33	31.95	1.74E-004	1785.78
O-210-3-A-20-23-1-3-000	327	0.09	1.11E-05	1.56	0.33	32.23	1.72E-004	1792.87
O-210-5-A-18-13-1-3-000	276	0.07	1.09E-05	1.38	0.28	28.70	1.24E-004	1672.63
O-210-5-A-18-13-1-3-001	267	0.07	1.06E-05	1.34	0.28	27.84	1.21E-004	1628.99
O-210-5-A-18-13-1-3-009	297	0.08	1.13E-05	1.46	0.30	29.95	1.24E-004	1786.02
O-210-5-A-18-13-1-3-024	284	0.07	1.16E-05	1.43	0.30	29.38	1.26E-004	1740.21
O-210-5-A-18-13-1-3-072	289	0.07	1.12E-05	1.42	0.30	29.42	1.25E-004	1716.23
O-210-5-A-18-15-1-3-000	280	0.07	1.10E-05	1.40	0.29	28.94	1.23E-004	1687.45
O-210-5-A-18-15-1-3-001	266	0.07	1.05E-05	1.33	0.27	27.49	1.19E-004	1608.19
O-210-5-A-18-15-1-3-025	286	0.07	1.20E-05	1.45	0.30	29.44	1.24E-004	1765.20
O-245-3-A-18-15-1-3-000	299	0.08	1.17E-05	1.46	0.31	29.70	1.74E-004	1733.91
O-245-5-A-18-15-1-3-000	282	0.07	1.11E-05	1.41	0.29	29.26	1.26E-004	1707.24

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-245-5-A-20-13-1-3-000	263	0.07	9.82E-06	1.33	0.27	28.00	1.24E-004	1587.02
O-280-3-A-18-13-1-3-000	327	0.09	1.24E-05	1.58	0.34	32.15	1.81E-004	1865.03
O-280-3-A-18-15-1-3-000	332	0.09	1.25E-05	1.59	0.34	32.32	1.78E-004	1872.89
O-280-3-A-18-15-1-3-001	338	0.09	1.27E-05	1.62	0.35	32.94	1.79E-004	1908.73
O-280-3-A-18-18-1-3-000	333	0.09	1.26E-05	1.61	0.34	32.63	1.77E-004	1897.37
O-280-3-A-18-18-1-3-001	332	0.08	1.25E-05	1.59	0.34	32.20	1.70E-004	1875.33
O-280-3-A-18-20-1-3-000	330	0.09	1.26E-05	1.60	0.34	32.55	1.75E-004	1899.39
O-280-3-A-18-23-1-3-000	326	0.08	1.24E-05	1.58	0.34	32.11	1.75E-004	1867.39
O-280-3-A-20-20-1-3-000	325	0.09	1.15E-05	1.58	0.33	32.44	1.78E-004	1826.07
O-280-5-A-18-13-1-3-000	301	0.08	1.15E-05	1.48	0.31	30.53	1.25E-004	1776.92
O-280-5-A-18-13-1-3-024	312	0.09	1.24E-05	1.54	0.33	31.31	1.72E-004	1855.26
O-280-5-A-18-15-1-3-000	293	0.07	1.14E-05	1.45	0.30	29.97	1.25E-004	1750.75
O-280-5-A-18-15-1-3-001	296	0.07	1.15E-05	1.46	0.30	29.96	1.23E-004	1751.58
O-350-3-A-18-13-1-3-000	333	0.09	1.20E-05	1.60	0.34	32.57	1.79E-004	1852.51
O-350-3-A-18-15-1-3-000	346	0.09	1.23E-05	1.65	0.35	33.66	1.81E-004	1908.48
O-350-3-A-18-18-1-3-000	365	0.09	1.29E-05	1.73	0.37	35.13	1.79E-004	1997.62
O-350-3-A-18-20-1-3-000	369	0.09	1.27E-05	1.74	0.38	35.51	1.80E-004	2000.37
O-350-3-A-18-23-1-3-000	364	0.09	1.36E-05	1.73	0.38	34.90	1.77E-004	2034.51
O-350-5-A-18-13-1-3-000	319	0.08	1.15E-05	1.56	0.33	32.32	1.29E-004	1839.36
O-350-5-A-18-15-1-3-000	320	0.08	1.16E-05	1.56	0.33	32.10	1.26E-004	1836.47
T-210-3-A-28-20-1-3-000	309	0.08	1.06E-05	1.49	0.32	30.63	1.84E-004	1700.84
T-210-5-A-28-20-1-3-000	286	0.08	1.01E-05	1.42	0.29	29.51	1.34E-004	1651.73
T-210-5-A-28-20-1-3-464	303	0.09	1.17E-05	1.51	0.33	30.61	2.14E-004	1779.42
T-245-3-A-28-20-1-3-000	299	0.08	1.08E-05	1.47	0.31	30.16	1.88E-004	1697.28
T-245-5-A-28-20-1-3-000	283	0.08	1.03E-05	1.42	0.29	29.47	1.35E-004	1664.05
T-280-3-A-28-20-1-3-000	333	0.09	1.13E-05	1.60	0.34	32.68	1.92E-004	1815.40
T-280-3-A-28-20-1-3-59M	342	0.09	1.20E-05	1.63	0.35	33.31	1.58E-004	1892.17

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**
T-280-3-A-28-23-1-3-63F	369	0.11	1.35E-05	1.78	0.40	35.48	2.30E-004	2065.86
T-280-5-A-28-18-1-3-665	323	0.08	1.07E-05	1.56	0.33	32.29	1.39E-004	1781.10
T-280-5-A-28-20-1-3-000	305	0.08	1.07E-05	1.50	0.31	31.05	1.37E-004	1743.47
T-280-5-A-28-20-1-3-200	318	0.08	1.07E-05	1.55	0.32	32.13	1.38E-004	1781.80
T-280-5-A-28-20-1-3-66G	308	0.09	1.17E-05	1.51	0.33	30.58	2.37E-004	1764.14
T-350-3-A-28-20-1-3-000	373	0.10	1.21E-05	1.76	0.38	35.84	1.94E-004	1973.93
T-350-5-A-28-20-1-3-000	348	0.09	1.16E-05	1.68	0.35	34.42	1.43E-004	1914.05
V-210-3-A-28-65-1-3-000	282	0.08	1.07E-05	1.43	0.29	29.47	1.77E-004	1687.76
V-210-3-A-28-65-1-3-012	290	0.09	1.19E-05	1.48	0.32	29.83	2.58E-004	1770.17
V-280-3-A-28-65-1-3-000	340	0.09	1.18E-05	1.65	0.35	33.72	1.84E-004	1895.07
V-280-3-A-28-65-1-3-001	359	0.09	1.23E-05	1.72	0.37	34.89	1.90E-004	1953.75
V-315-3-A-28-65-1-3-000	378	0.10	1.26E-05	1.81	0.39	36.71	1.87E-004	2043.74
V-350-3-A-03-65-1-3-000	531	0.12	1.81E-05	2.42	0.55	47.72	2.03E-004	2747.42
V-350-3-A-28-65-1-3-000	358	0.09	1.23E-05	1.73	0.37	35.22	1.88E-004	1975.76
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	84.60	0.00	84.60	1919.08	0.00	1919.08	18.68	29.27	355.58	2.27
1-210-3-A-03-13-1-3-001	87.70	0.00	87.70	1966.45	0.00	1966.45	18.40	30.82	374.40	2.27
1-210-3-A-03-15-1-3-000	84.76	0.00	84.76	1925.97	0.00	1925.97	17.81	29.33	356.35	2.29
1-210-3-A-03-15-1-3-001	85.44	0.00	85.44	1923.79	0.00	1923.79	21.30	29.98	364.25	2.22
1-210-3-A-03-15-1-3-004	88.77	0.00	88.77	1987.25	21.08	2008.33	20.01	30.37	369.00	2.29
1-210-3-A-03-15-1-3-020	82.97	0.00	82.97	1919.40	0.00	1919.40	25.51	28.49	346.12	2.29

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**
1-210-3-A-07-13-1-3-000	76.52	0.00	76.52	1782.49	0.00	1782.49	4.14	25.62	311.29	2.32
1-210-3-A-28-10-0-3-000	76.61	0.00	76.61	1673.19	0.00	1673.19	33.90	25.75	312.88	2.27
1-210-3-A-28-13-1-3-000	76.52	0.00	76.52	1676.23	0.00	1676.23	53.03	25.91	314.80	2.23
1-210-3-A-28-13-1-3-001	75.28	0.00	75.28	1654.17	0.00	1654.17	54.85	25.47	309.40	2.19
1-210-3-A-28-13-1-3-008	79.05	0.00	79.05	1725.62	21.08	1746.70	65.97	26.21	318.49	2.25
1-210-3-A-28-15-1-3-000	75.77	0.00	75.77	1660.55	0.00	1660.55	46.23	25.53	310.15	2.24
1-210-3-A-28-15-1-3-001	83.05	0.00	83.05	1778.72	0.00	1778.72	43.13	28.82	350.18	2.26
1-210-3-A-28-15-1-3-004	86.55	0.00	86.55	1823.13	21.08	1844.21	11.20	29.49	358.27	2.28
1-210-3-A-28-15-1-3-01Z	76.54	0.00	76.54	1688.11	0.00	1688.11	36.99	25.87	314.34	2.23
1-210-3-A-28-15-1-3-060	75.96	0.00	75.96	1670.37	0.00	1670.37	57.77	25.33	307.70	2.25
1-210-3-A-28-15-1-3-061	80.62	0.00	80.62	1739.44	0.00	1739.44	41.41	26.60	323.13	2.31
1-210-3-A-28-20-1-3-000	80.55	0.00	80.55	1743.18	0.00	1743.18	42.68	27.86	338.55	2.22
1-210-5-A-03-13-1-3-000	74.16	0.00	74.16	1810.38	0.00	1810.38	19.18	25.62	311.31	3.18
1-210-5-A-03-13-1-3-001	75.36	0.00	75.36	1820.18	0.00	1820.18	16.39	26.34	320.02	3.11
1-210-5-A-03-13-1-3-024	81.94	0.00	81.94	1914.87	0.00	1914.87	17.25	27.29	331.51	3.25
1-210-5-A-03-15-1-3-000	76.00	0.00	76.00	1837.58	0.00	1837.58	16.70	26.54	322.48	3.15
1-210-5-A-03-20-1-3-000	76.85	0.00	76.85	1857.99	0.00	1857.99	17.02	26.91	326.96	3.15
1-210-5-A-07-13-1-3-000	68.23	0.00	68.23	1702.67	0.00	1702.67	13.78	22.85	277.67	3.20
1-210-5-A-07-13-1-3-024	73.43	0.00	73.43	1764.34	0.00	1764.34	15.01	23.28	282.83	3.27
1-210-5-A-07-13-1-3-04Z	75.34	0.00	75.34	1811.55	0.00	1811.55	22.18	25.36	308.06	3.16
1-210-5-A-07-15-1-3-000	67.52	0.00	67.52	1699.64	0.00	1699.64	17.89	22.50	273.39	3.20
1-210-5-A-07-15-1-3-024	73.13	0.00	73.13	1759.48	0.00	1759.48	14.83	23.16	281.41	3.26
1-210-5-A-07-20-1-3-000	69.38	0.00	69.38	1722.42	0.00	1722.42	14.46	23.50	285.47	3.15
1-210-5-A-14-13-1-3-000	66.23	0.00	66.23	1592.30	0.00	1592.30	34.15	22.07	268.12	3.18
1-210-5-A-14-15-1-3-000	63.97	0.00	63.97	1556.38	0.00	1556.38	32.57	21.04	255.69	3.17
1-210-5-A-14-15-1-3-001	62.27	0.00	62.27	1514.14	0.00	1514.14	31.39	20.37	247.54	3.10
1-210-5-A-28-10-0-3-000	67.11	0.00	67.11	1597.25	0.00	1597.25	40.82	22.59	274.41	3.13
1-210-5-A-28-10-0-3-001	65.50	0.00	65.50	1546.36	0.00	1546.36	33.87	21.99	267.19	3.08
1-210-5-A-28-13-1-3-000	68.51	0.00	68.51	1613.33	0.00	1613.33	46.35	23.33	283.44	3.10
1-210-5-A-28-13-1-3-001	68.87	0.00	68.87	1601.52	0.00	1601.52	36.20	23.59	286.63	3.05

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**
1-210-5-A-28-13-1-3-01P	73.69	0.00	73.69	1655.94	0.00	1655.94	37.97	24.47	297.26	3.11
1-210-5-A-28-13-1-3-025	76.64	0.00	76.64	1697.48	0.00	1697.48	37.37	24.14	293.34	3.22
1-210-5-A-28-13-1-3-04M	87.64	0.00	87.64	1826.79	0.00	1826.79	38.20	24.63	299.26	3.44
1-210-5-A-28-13-1-3-04W	78.55	0.00	78.55	1804.46	0.00	1804.46	32.95	24.34	295.71	3.28
1-210-5-A-28-15-1-3-000	69.58	0.00	69.58	1629.68	0.00	1629.68	41.78	23.83	289.48	3.10
1-210-5-A-28-15-1-3-001	71.34	0.00	71.34	1634.36	0.00	1634.36	39.00	24.86	302.01	3.01
1-210-5-A-28-15-1-3-004	76.06	0.00	76.06	1721.58	21.08	1742.66	25.18	25.89	314.59	3.13
1-210-5-A-28-15-1-3-009	71.05	0.00	71.05	1635.67	21.08	1656.75	66.93	23.80	289.16	3.03
1-210-5-A-28-15-1-3-025	77.56	0.00	77.56	1713.90	0.00	1713.90	37.92	24.60	298.82	3.21
1-210-5-A-28-15-1-3-03Z	74.58	0.00	74.58	1687.26	21.08	1708.34	37.55	24.30	295.24	3.15
1-210-5-A-28-15-1-3-04M	89.68	0.00	89.68	1859.55	0.00	1859.55	39.50	25.39	308.53	3.47
1-210-5-A-28-15-1-3-04W	77.38	0.00	77.38	1787.86	0.00	1787.86	34.40	23.92	290.58	3.27
1-210-5-A-28-15-1-3-061	71.77	0.00	71.77	1650.20	0.00	1650.20	29.97	23.89	290.28	3.15
1-210-5-A-28-15-1-3-55A	70.65	0.00	70.65	1659.48	0.00	1659.48	65.46	24.36	296.02	3.08
1-210-5-A-28-20-1-3-000	72.81	0.00	72.81	1679.16	0.00	1679.16	32.52	25.35	308.03	3.09
1-210-5-A-28-20-1-3-04W	79.39	0.00	79.39	1825.15	0.00	1825.15	37.88	24.68	299.85	3.27
1-210-5-A-28-20-1-3-061	72.22	0.00	72.22	1658.92	0.00	1658.92	34.46	24.15	293.41	3.13
1-245-3-A-03-13-1-3-001	95.04	0.00	95.04	2091.28	0.00	2091.28	21.78	34.50	419.19	2.19
1-245-3-A-14-13-1-3-000	76.99	0.00	76.99	1690.70	0.00	1690.70	40.92	25.96	315.44	2.24
1-245-3-A-28-10-0-3-000	76.24	0.00	76.24	1660.41	0.00	1660.41	24.13	25.48	309.59	2.27
1-245-3-A-28-13-1-3-000	76.94	0.00	76.94	1689.68	0.00	1689.68	39.98	25.99	315.73	2.26
1-245-3-A-28-13-1-3-001	81.18	0.00	81.18	1824.86	0.00	1824.86	38.20	27.48	333.92	2.37
1-245-3-A-28-15-1-3-000	81.06	0.00	81.06	1752.53	0.00	1752.53	13.35	27.71	336.72	2.30
1-245-3-A-28-20-1-3-001	79.52	0.00	79.52	1736.44	0.00	1736.44	25.49	27.05	328.63	2.25
1-245-5-A-03-13-1-3-000	90.11	0.00	90.11	2082.59	0.00	2082.59	0.81	33.01	401.11	3.18
1-245-5-A-03-15-1-3-000	84.16	0.00	84.16	1983.35	0.00	1983.35	18.80	30.42	369.64	3.11
1-245-5-A-14-13-1-3-000	69.65	0.00	69.65	1637.63	0.00	1637.63	36.67	23.79	289.03	3.13
1-245-5-A-14-15-1-3-001	69.71	0.00	69.71	1625.45	0.00	1625.45	31.93	23.90	290.41	3.07
1-245-5-A-28-10-0-3-000	68.72	0.00	68.72	1625.13	0.00	1625.13	26.22	23.19	281.75	3.19
1-245-5-A-28-13-1-3-000	68.65	0.00	68.65	1627.51	0.00	1627.51	39.62	23.25	282.46	3.16

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-28-13-1-3-001	69.91	0.00	69.91	1632.49	0.00	1632.49	37.34	24.02	291.83	3.07
1-245-5-A-28-15-1-3-000	69.58	0.00	69.58	1648.28	0.00	1648.28	46.92	23.75	288.51	3.12
1-245-5-A-28-15-1-3-001	80.11	0.00	80.11	1792.24	0.00	1792.24	0.70	28.67	348.28	3.11
1-280-3-A-03-13-1-3-000	102.03	0.00	102.03	2226.57	0.00	2226.57	23.14	37.72	458.23	2.20
1-280-3-A-03-13-1-3-001	108.10	0.00	108.10	2350.35	0.00	2350.35	28.99	40.23	488.83	2.28
1-280-3-A-03-15-1-3-001	111.86	0.00	111.86	2424.21	0.00	2424.21	23.56	41.84	508.29	2.35
1-280-3-A-03-15-1-3-009	107.36	0.00	107.36	2330.65	21.08	2351.73	25.20	39.22	476.49	2.23
1-280-3-A-03-15-1-3-01O	115.04	0.00	115.04	2407.82	21.08	2428.90	24.85	38.63	469.29	2.46
1-280-3-A-03-20-1-3-000	104.01	0.00	104.01	2303.67	0.00	2303.67	23.63	38.38	466.34	2.29
1-280-3-A-07-20-1-3-000	94.11	0.00	94.11	2085.50	0.00	2085.50	0.83	33.73	409.84	2.27
1-280-3-A-14-13-1-3-000	84.92	0.00	84.92	1817.85	0.00	1817.85	36.01	29.68	360.59	2.25
1-280-3-A-14-15-1-3-000	84.85	0.00	84.85	1828.59	0.00	1828.59	41.85	29.65	360.20	2.28
1-280-3-A-14-20-1-3-000	84.66	0.00	84.66	1824.67	0.00	1824.67	45.64	29.68	360.65	2.24
1-280-3-A-14-20-1-3-001	85.45	0.00	85.45	1827.60	0.00	1827.60	46.80	30.28	367.91	2.18
1-280-3-A-28-10-0-3-000	80.61	0.00	80.61	1757.83	0.00	1757.83	48.19	27.65	335.92	2.26
1-280-3-A-28-10-0-3-001	80.36	0.00	80.36	1739.19	0.00	1739.19	42.92	27.58	335.06	2.25
1-280-3-A-28-13-1-3-000	79.46	0.00	79.46	1745.42	0.00	1745.42	63.79	27.27	331.36	2.23
1-280-3-A-28-13-1-3-001	84.91	0.00	84.91	1805.12	0.00	1805.12	30.26	29.73	361.15	2.23
1-280-3-A-28-13-1-3-054	97.07	0.00	97.07	1974.24	21.08	1995.32	64.48	29.89	363.13	2.47
1-280-3-A-28-15-1-3-000	82.50	0.00	82.50	1813.39	0.00	1813.39	57.75	28.67	348.31	2.28
1-280-3-A-28-15-1-3-001	83.50	0.00	83.50	1788.51	0.00	1788.51	46.37	29.32	356.24	2.19
1-280-3-A-28-15-1-3-004	86.95	0.00	86.95	1860.34	21.08	1881.42	47.36	29.76	361.56	2.28
1-280-3-A-28-15-1-3-060	81.64	0.00	81.64	1796.32	0.00	1796.32	78.32	27.80	337.78	2.27
1-280-3-A-28-15-1-3-061	82.81	0.00	82.81	1807.93	0.00	1807.93	59.14	27.65	335.95	2.35
1-280-3-A-28-20-1-3-000	84.93	0.00	84.93	1857.35	0.00	1857.35	50.83	29.80	362.09	2.29
1-280-3-A-28-20-1-3-001	82.34	0.00	82.34	1775.92	0.00	1775.92	44.32	28.78	349.63	2.18
1-280-3-A-28-20-1-3-060	87.12	0.00	87.12	1878.92	0.00	1878.92	46.97	30.16	366.45	2.28
1-280-3-A-28-20-1-3-061	87.23	0.00	87.23	1848.83	0.00	1848.83	46.06	29.78	361.82	2.27
1-280-3-A-28-20-1-3-62F	78.38	0.00	78.38	1698.99	0.00	1698.99	39.21	26.96	327.56	2.13
1-280-5-A-03-13-1-3-000	94.02	0.00	94.02	2171.36	0.00	2171.36	21.22	34.87	423.67	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**
1-280-5-A-03-13-1-3-001	93.46	0.00	93.46	2162.03	0.00	2162.03	19.51	34.67	421.20	3.12
1-280-5-A-03-15-1-3-000	92.68	0.00	92.68	2143.95	0.00	2143.95	21.21	34.26	416.25	3.16
1-280-5-A-03-15-1-3-004	94.97	0.00	94.97	2174.12	21.08	2195.20	21.45	34.51	419.26	3.12
1-280-5-A-03-15-1-3-009	96.80	0.00	96.80	2188.30	21.08	2209.38	21.99	35.47	430.99	3.07
1-280-5-A-03-15-1-3-073	98.32	0.00	98.32	2222.17	21.08	2243.25	21.81	35.52	431.50	3.09
1-280-5-A-07-13-1-3-000	82.78	0.00	82.78	1954.78	0.00	1954.78	22.10	29.79	361.92	3.11
1-280-5-A-07-13-1-3-00V	81.07	0.00	81.07	1921.50	0.00	1921.50	18.07	28.39	344.89	3.16
1-280-5-A-07-13-1-3-024	91.79	0.00	91.79	2073.74	0.00	2073.74	19.67	32.08	389.79	3.16
1-280-5-A-07-15-1-3-000	81.04	0.00	81.04	1920.99	0.00	1920.99	18.97	29.03	352.74	3.07
1-280-5-A-07-20-1-3-000	85.45	0.00	85.45	2017.52	0.00	2017.52	18.99	30.98	376.37	3.12
1-280-5-A-14-13-1-3-000	75.40	0.00	75.40	1742.47	0.00	1742.47	40.97	26.41	320.85	3.15
1-280-5-A-14-15-1-3-000	79.04	0.00	79.04	1797.13	0.00	1797.13	24.20	28.07	341.03	3.16
1-280-5-A-14-15-1-3-001	84.91	0.00	84.91	1873.74	0.00	1873.74	2.15	30.93	375.74	3.10
1-280-5-A-28-10-0-3-000	72.23	0.00	72.23	1683.11	0.00	1683.11	37.03	24.91	302.68	3.16
1-280-5-A-28-13-1-3-000	73.49	0.00	73.49	1708.66	0.00	1708.66	47.72	25.58	310.85	3.12
1-280-5-A-28-13-1-3-001	75.37	0.00	75.37	1751.60	0.00	1751.60	45.58	26.57	322.77	3.05
1-280-5-A-28-13-1-3-009	77.39	0.00	77.39	1749.46	21.08	1770.54	40.95	26.64	323.69	3.06
1-280-5-A-28-13-1-3-024	81.58	0.00	81.58	1809.49	0.00	1809.49	33.68	27.34	332.17	3.21
1-280-5-A-28-13-1-3-02H	82.29	0.00	82.29	1799.86	0.00	1799.86	70.50	24.80	301.28	3.28
1-280-5-A-28-13-1-3-04M	94.14	0.00	94.14	1946.65	0.00	1946.65	42.58	27.20	330.53	3.47
1-280-5-A-28-13-1-3-04W	85.16	0.00	85.16	1928.00	0.00	1928.00	36.00	26.99	327.91	3.34
1-280-5-A-28-13-1-3-061	75.87	0.00	75.87	1743.52	0.00	1743.52	39.34	25.53	310.21	3.22
1-280-5-A-28-15-1-3-000	74.57	0.00	74.57	1742.42	0.00	1742.42	47.71	26.07	316.69	3.12
1-280-5-A-28-15-1-3-001	75.89	0.00	75.89	1718.39	0.00	1718.39	41.42	26.91	326.89	3.02
1-280-5-A-28-15-1-3-002	75.07	0.00	75.07	1754.22	0.00	1754.22	40.82	26.24	318.83	3.13
1-280-5-A-28-15-1-3-004	81.19	0.00	81.19	1824.76	21.08	1845.84	31.73	28.23	342.97	3.14
1-280-5-A-28-15-1-3-009	77.47	0.00	77.47	1772.15	21.08	1793.23	58.77	26.69	324.21	3.05
1-280-5-A-28-15-1-3-025	82.98	0.00	82.98	1817.95	0.00	1817.95	43.97	26.98	327.76	3.26
1-280-5-A-28-15-1-3-04W	83.76	0.00	83.76	1905.82	0.00	1905.82	40.69	26.37	320.33	3.31
1-280-5-A-28-15-1-3-060	74.80	0.00	74.80	1741.62	0.00	1741.62	53.94	25.69	312.13	3.13

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-28-15-1-3-061	77.47	0.00	77.47	1761.15	0.00	1761.15	47.33	26.34	320.01	3.19
1-280-5-A-28-15-1-3-55A	85.24	0.00	85.24	1934.59	0.00	1934.59	69.46	31.11	377.94	3.08
1-280-5-A-28-15-1-3-66L	86.40	0.00	86.40	1963.15	0.00	1963.15	62.88	31.64	384.44	3.08
1-280-5-A-28-20-1-3-000	76.64	0.00	76.64	1761.74	0.00	1761.74	37.18	27.04	328.49	3.12
1-280-5-A-28-20-1-3-001	74.65	0.00	74.65	1723.90	0.00	1723.90	56.55	26.31	319.64	3.03
1-280-5-A-28-20-1-3-03Z	83.50	0.00	83.50	1857.69	21.08	1878.77	40.24	28.22	342.86	3.17
1-280-5-A-28-20-1-3-060	76.42	0.00	76.42	1749.09	0.00	1749.09	40.72	26.44	321.19	3.12
1-280-5-A-28-20-1-3-061	79.73	0.00	79.73	1798.37	0.00	1798.37	31.17	27.40	332.94	3.17
1-315-3-A-07-15-1-3-001	95.70	0.00	95.70	2116.27	0.00	2116.27	30.48	34.82	423.05	2.18
1-315-5-A-03-15-1-3-000	96.51	0.00	96.51	2206.53	0.00	2206.53	18.18	36.05	438.02	3.12
1-315-5-A-07-15-1-3-000	87.59	0.00	87.59	2038.20	0.00	2038.20	10.64	31.96	388.26	3.14
1-315-5-A-14-15-1-3-000	80.06	0.00	80.06	1815.00	0.00	1815.00	44.69	28.61	347.65	3.13
1-315-5-A-28-13-1-3-000	300.76	0.00	300.76	6708.93	0.00	6708.93	176.90	114.97	1396.81	11.71
1-315-5-A-28-13-1-3-001	86.20	0.00	86.20	1901.70	0.00	1901.70	48.61	31.62	384.17	3.06
1-315-5-A-28-15-1-3-000	84.43	0.00	84.43	1875.61	0.00	1875.61	38.64	30.73	373.37	3.09
1-315-5-A-28-15-1-3-004	87.95	0.00	87.95	1929.33	21.08	1950.41	41.84	31.48	382.46	3.09
1-350-3-A-03-15-1-3-000	122.77	0.00	122.77	2602.82	0.00	2602.82	17.32	47.37	575.55	2.21
1-350-3-A-03-15-1-3-004	125.82	0.00	125.82	2660.76	21.08	2681.84	29.61	47.94	582.48	2.23
1-350-3-A-07-20-1-3-000	113.70	0.00	113.70	2454.59	0.00	2454.59	1.05	42.96	521.97	2.28
1-350-3-A-28-13-1-3-000	83.54	0.00	83.54	1823.57	0.00	1823.57	82.02	29.21	354.88	2.20
1-350-3-A-28-13-1-3-001	90.21	0.00	90.21	1881.67	0.00	1881.67	30.46	32.25	391.78	2.19
1-350-3-A-28-15-1-3-000	91.00	0.00	91.00	1925.19	0.00	1925.19	56.41	32.61	396.22	2.23
1-350-3-A-28-15-1-3-001	90.10	0.00	90.10	1892.75	0.00	1892.75	50.21	32.46	394.37	2.17
1-350-3-A-28-15-1-3-00V	95.30	0.00	95.30	1965.14	0.00	1965.14	64.60	29.92	363.46	2.46
1-350-3-A-28-15-1-3-55A	88.63	0.00	88.63	1743.08	0.00	1743.08	64.75	32.87	399.41	3.01
1-350-3-A-28-20-1-3-000	94.03	0.00	94.03	1968.59	0.00	1968.59	51.09	34.07	413.93	2.22
1-350-3-A-28-20-1-3-060	92.12	0.00	92.12	1929.92	0.00	1929.92	44.75	32.55	395.41	2.26
1-350-3-A-28-20-1-3-061	97.09	0.00	97.09	1998.26	0.00	1998.26	52.55	34.20	415.54	2.27
1-350-5-A-03-15-1-3-000	108.46	0.00	108.46	2403.47	0.00	2403.47	21.99	41.98	510.00	2.96
1-350-5-A-03-15-1-3-001	116.35	0.00	116.35	2533.11	0.00	2533.11	5.64	45.64	554.47	2.97

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-07-13-1-3-000	97.49	0.00	97.49	2230.00	0.00	2230.00	21.63	36.50	443.42	3.15
1-350-5-A-07-15-1-3-000	98.09	0.00	98.09	2227.97	0.00	2227.97	0.90	36.80	447.16	3.15
1-350-5-A-28-13-1-3-000	79.35	0.00	79.35	1811.45	0.00	1811.45	52.52	28.26	343.35	3.13
1-350-5-A-28-13-1-3-024	83.90	0.00	83.90	1852.14	0.00	1852.14	44.31	28.42	345.33	3.20
1-350-5-A-28-15-1-3-000	82.50	0.00	82.50	1852.65	0.00	1852.65	51.80	29.81	362.14	3.10
1-350-5-A-28-15-1-3-004	87.68	0.00	87.68	1924.54	21.08	1945.62	48.40	31.37	381.10	3.09
1-350-5-A-28-15-1-3-55A	84.11	0.00	84.11	1894.74	0.00	1894.74	91.53	30.69	372.87	3.03
1-350-5-A-28-20-1-3-000	84.41	0.00	84.41	1901.04	0.00	1901.04	54.97	30.75	373.55	3.07
3-280-3-A-28-13-1-3-000	84.11	0.00	84.11	1862.19	0.00	1862.19	106.68	28.68	348.41	2.38
3-280-3-A-28-13-1-3-001	85.17	0.00	85.17	1826.80	0.00	1826.80	84.41	30.08	365.41	2.14
3-280-5-A-28-13-1-3-000	85.42	0.00	85.42	1886.38	0.00	1886.38	21.35	31.08	377.56	3.15
3-280-5-A-28-13-1-3-66E	89.77	0.00	89.77	1915.81	21.08	1936.89	60.72	30.73	373.37	2.25
3-280-5-A-28-15-1-3-000	75.16	0.00	75.16	1731.13	0.00	1731.13	83.87	26.52	322.18	3.05
3-280-5-A-28-15-1-3-009	78.32	0.00	78.32	1778.07	21.08	1799.15	93.13	27.20	330.52	2.99
3-280-5-A-28-20-1-3-009	88.57	0.00	88.57	1950.18	21.08	1971.26	52.79	31.90	387.61	3.02
8-210-3-A-28-15-1-3-000	71.84	0.00	71.84	1592.24	0.00	1592.24	59.95	23.98	291.39	2.16
8-210-3-A-28-20-1-3-000	73.81	0.00	73.81	1636.28	0.00	1636.28	38.14	24.67	299.76	2.25
8-210-5-A-28-13-1-3-000	88.72	0.00	88.72	2100.02	0.00	2100.02	21.44	30.45	370.01	4.28
8-280-3-A-28-13-1-3-000	80.16	0.00	80.16	1740.91	0.00	1740.91	43.43	27.57	335.00	2.23
8-280-3-A-28-15-1-3-000	79.59	0.00	79.59	1743.98	0.00	1743.98	58.50	27.39	332.82	2.21
8-280-3-A-28-20-1-3-000	82.73	0.00	82.73	1782.22	0.00	1782.22	45.15	28.94	351.56	2.19
8-280-5-A-28-15-1-3-000	71.61	0.00	71.61	1672.62	0.00	1672.62	37.04	24.69	299.98	3.13
8-315-5-A-28-15-1-3-000	80.29	0.00	80.29	1801.67	0.00	1801.67	44.75	28.96	351.82	3.04
8-350-3-A-28-15-1-3-000	91.66	0.00	91.66	1937.79	0.00	1937.79	51.74	32.91	399.85	2.23
8-350-3-A-28-20-1-3-000	90.99	0.00	90.99	1918.02	0.00	1918.02	47.62	32.64	396.52	2.23
8-350-5-A-28-15-1-3-000	84.67	0.00	84.67	1891.12	0.00	1891.12	43.52	30.79	374.11	3.12
C-210-3-A-28-25-1-3-000	75.46	0.00	75.46	1724.80	0.00	1724.80	95.68	24.45	297.08	2.31
F-210-3-A-18-65-1-3-000	85.98	0.00	85.98	2006.84	0.00	2006.84	23.25	29.69	360.72	2.40
F-280-3-A-18-65-1-3-000	95.11	0.00	95.11	2110.32	0.00	2110.32	29.81	33.45	406.39	2.45
F-350-3-A-18-65-1-3-000	93.07	0.00	93.07	2151.04	0.00	2151.04	20.07	33.46	406.52	2.39

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**
F-350-3-A-18-65-1-3-001	89.45	0.00	89.45	2092.40	0.00	2092.40	26.76	31.85	387.02	2.37
I-210-3-A-28-15-1-3-004	78.98	0.00	78.98	1665.50	21.08	1686.58	41.91	26.02	316.13	2.15
I-280-5-A-28-13-1-3-000	73.09	0.00	73.09	1659.33	0.00	1659.33	30.35	25.32	307.66	3.15
J-210-3-A-28-65-1-3-000	79.09	0.00	79.09	1818.77	0.00	1818.77	96.70	26.22	318.62	2.40
J-210-3-A-28-65-1-3-464	105.43	0.00	105.43	2199.43	0.00	2199.43	34.95	33.76	410.19	2.67
J-210-3-A-28-65-1-3-62L	92.56	0.00	92.56	1939.71	0.00	1939.71	80.63	30.69	372.92	2.35
J-245-3-A-28-65-1-3-000	80.82	0.00	80.82	1841.50	0.00	1841.50	75.77	27.01	328.11	2.38
J-245-3-A-28-65-1-3-020	84.16	0.00	84.16	1879.10	0.00	1879.10	23.99	28.32	344.05	2.45
M-210-0-A-28-13-1-3-061	78.50	0.00	78.50	1995.66	0.00	1995.66	41.24	26.45	321.39	3.07
M-210-0-A-28-15-1-3-05E	82.96	0.00	82.96	2088.61	21.08	2109.69	43.82	28.18	342.33	2.97
O-210-3-A-18-13-1-3-000	90.46	0.00	90.46	2025.67	0.00	2025.67	7.17	31.31	380.42	2.50
O-210-3-A-18-15-1-3-000	78.43	0.00	78.43	1791.39	0.00	1791.39	16.25	26.65	323.83	2.23
O-210-3-A-18-18-1-3-000	80.27	0.00	80.27	1848.79	0.00	1848.79	15.49	27.50	334.13	2.31
O-210-3-A-18-18-1-3-060	78.37	0.00	78.37	1814.07	0.00	1814.07	21.87	26.08	316.92	2.34
O-210-3-A-18-20-1-3-000	78.72	0.00	78.72	1842.04	0.00	1842.04	17.82	27.06	328.75	2.34
O-210-3-A-18-23-1-3-000	81.05	0.00	81.05	1895.56	0.00	1895.56	17.80	28.08	341.10	2.37
O-210-3-A-20-20-1-3-000	82.76	0.00	82.76	1834.96	0.00	1834.96	17.40	28.71	348.77	2.37
O-210-3-A-20-23-1-3-000	84.62	0.00	84.62	1842.21	0.00	1842.21	19.36	29.75	361.44	2.30
O-210-5-A-18-13-1-3-000	69.44	0.00	69.44	1709.57	0.00	1709.57	14.67	23.53	285.89	3.15
O-210-5-A-18-13-1-3-001	67.10	0.00	67.10	1664.43	0.00	1664.43	21.73	22.62	274.82	3.07
O-210-5-A-18-13-1-3-009	75.48	0.00	75.48	1800.99	21.08	1822.07	18.55	25.56	310.54	3.10
O-210-5-A-18-13-1-3-024	70.90	0.00	70.90	1777.43	0.00	1777.43	10.19	24.04	292.13	3.20
O-210-5-A-18-13-1-3-072	72.47	0.00	72.47	1752.09	0.00	1752.09	13.32	24.95	303.13	3.07
O-210-5-A-18-15-1-3-000	70.19	0.00	70.19	1724.08	0.00	1724.08	15.40	23.92	290.61	3.13
O-210-5-A-18-15-1-3-001	67.11	0.00	67.11	1645.68	0.00	1645.68	22.83	22.71	275.87	3.04
O-210-5-A-18-15-1-3-025	71.01	0.00	71.01	1802.42	0.00	1802.42	21.04	24.16	293.59	3.15
O-245-3-A-18-15-1-3-000	77.46	0.00	77.46	1787.50	0.00	1787.50	16.03	26.12	317.39	2.28
O-245-5-A-18-15-1-3-000	70.79	0.00	70.79	1745.28	0.00	1745.28	2.09	23.99	291.47	3.22
O-245-5-A-20-13-1-3-000	67.21	0.00	67.21	1625.27	0.00	1625.27	13.89	22.42	272.42	3.21
O-280-3-A-18-13-1-3-000	84.02	0.00	84.02	1921.15	0.00	1921.15	20.84	28.87	350.78	2.33

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**
O-280-3-A-18-15-1-3-000	85.00	0.00	85.00	1926.82	0.00	1926.82	18.28	29.57	359.25	2.27
O-280-3-A-18-15-1-3-001	86.43	0.00	86.43	1962.73	0.00	1962.73	21.68	30.18	366.71	2.29
O-280-3-A-18-18-1-3-000	84.96	0.00	84.96	1949.39	0.00	1949.39	18.17	29.53	358.72	2.32
O-280-3-A-18-18-1-3-001	84.36	0.00	84.36	1924.45	0.00	1924.45	23.16	29.62	359.90	2.24
O-280-3-A-18-20-1-3-000	83.98	0.00	83.98	1948.86	0.00	1948.86	18.10	29.13	353.92	2.36
O-280-3-A-18-23-1-3-000	83.17	0.00	83.17	1918.09	0.00	1918.09	22.17	28.77	349.55	2.33
O-280-3-A-20-20-1-3-000	84.02	0.00	84.02	1877.19	0.00	1877.19	18.14	29.12	353.79	2.36
O-280-5-A-18-13-1-3-000	74.87	0.00	74.87	1814.30	0.00	1814.30	18.69	26.06	316.61	3.14
O-280-5-A-18-13-1-3-024	80.68	0.00	80.68	1891.89	0.00	1891.89	17.45	26.74	324.82	3.24
O-280-5-A-18-15-1-3-000	73.05	0.00	73.05	1787.98	0.00	1787.98	19.71	25.20	306.22	3.13
O-280-5-A-18-15-1-3-001	73.70	0.00	73.70	1788.62	0.00	1788.62	25.20	25.67	311.88	3.06
O-350-3-A-18-13-1-3-000	85.74	0.00	85.74	1907.29	0.00	1907.29	28.53	29.91	363.45	2.27
O-350-3-A-18-15-1-3-000	88.82	0.00	88.82	1962.89	0.00	1962.89	19.07	31.30	380.33	2.28
O-350-3-A-18-18-1-3-000	92.70	0.00	92.70	2049.39	0.00	2049.39	24.28	33.24	403.81	2.30
O-350-3-A-18-20-1-3-000	93.92	0.00	93.92	2051.95	0.00	2051.95	13.80	33.79	410.49	2.32
O-350-3-A-18-23-1-3-000	91.53	0.00	91.53	2084.78	0.00	2084.78	25.97	32.71	397.46	2.29
O-350-5-A-18-13-1-3-000	79.72	0.00	79.72	1877.10	0.00	1877.10	17.73	28.22	342.80	3.20
O-350-5-A-18-15-1-3-000	79.64	0.00	79.64	1873.02	0.00	1873.02	27.85	28.39	344.92	3.11
T-210-3-A-28-20-1-3-000	81.70	0.00	81.70	1752.51	0.00	1752.51	44.75	27.92	339.20	2.23
T-210-5-A-28-20-1-3-000	73.23	0.00	73.23	1687.42	0.00	1687.42	48.34	25.12	305.16	3.07
T-210-5-A-28-20-1-3-464	83.23	0.00	83.23	1818.67	0.00	1818.67	27.61	26.15	317.68	3.33
T-245-3-A-28-20-1-3-000	79.40	0.00	79.40	1752.19	0.00	1752.19	53.83	26.51	322.13	2.28
T-245-5-A-28-20-1-3-000	72.65	0.00	72.65	1700.94	0.00	1700.94	44.07	24.68	299.81	3.14
T-280-3-A-28-20-1-3-000	87.55	0.00	87.55	1868.72	0.00	1868.72	37.52	30.33	368.55	2.28
T-280-3-A-28-20-1-3-59M	86.64	0.00	86.64	1930.52	0.00	1930.52	62.10	30.47	370.25	3.10
T-280-3-A-28-23-1-3-63F	98.06	0.00	98.06	2103.56	0.00	2103.56	65.55	32.64	396.62	3.26
T-280-5-A-28-18-1-3-665	82.57	0.00	82.57	1820.95	0.00	1820.95	22.78	29.28	355.77	3.16
T-280-5-A-28-20-1-3-000	77.52	0.00	77.52	1779.40	0.00	1779.40	48.30	27.00	328.00	3.09
T-280-5-A-28-20-1-3-200	80.92	0.00	80.92	1817.48	0.00	1817.48	44.32	28.60	347.47	3.09
T-280-5-A-28-20-1-3-66G	84.39	0.00	84.39	1827.34	0.00	1827.34	74.78	26.63	323.54	2.33

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**
T-350-3-A-28-20-1-3-000	96.88	0.00	96.88	2026.08	0.00	2026.08	53.58	34.76	422.35	2.25
T-350-5-A-28-20-1-3-000	87.71	0.00	87.71	1949.56	0.00	1949.56	64.14	31.71	385.28	3.06
V-210-3-A-28-65-1-3-000	73.84	0.00	73.84	1732.02	0.00	1732.02	89.92	24.27	294.91	2.37
V-210-3-A-28-65-1-3-012	81.57	0.00	81.57	1814.05	0.00	1814.05	90.58	24.32	295.42	2.53
V-280-3-A-28-65-1-3-000	87.88	0.00	87.88	1939.76	0.00	1939.76	60.07	30.77	373.86	2.36
V-280-3-A-28-65-1-3-001	92.71	0.00	92.71	1998.37	0.00	1998.37	22.39	32.87	399.42	2.40
V-315-3-A-28-65-1-3-000	96.59	0.00	96.59	2086.65	0.00	2086.65	69.33	34.86	423.58	2.34
V-350-3-A-03-65-1-3-000	130.49	0.00	130.49	2788.78	0.00	2788.78	1.23	50.33	611.52	2.35
V-350-3-A-28-65-1-3-000	92.13	0.00	92.13	2021.31	0.00	2021.31	52.39	32.59	395.91	2.39
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 M³ OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
.	**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**
1-420-3-A-03-13-1-3-072	595	0.13	1.90E-05	2.65	0.60	52.26	1.88E-004	2958.35
1-420-3-A-07-13-1-3-072	506	0.12	1.69E-05	2.29	0.51	45.50	1.84E-004	2594.53
1-420-3-A-07-15-1-3-55A	445	0.10	1.46E-05	2.04	0.45	41.26	1.33E-004	2330.99
1-420-3-A-28-15-1-3-000	411	0.10	1.24E-05	1.90	0.41	38.84	1.81E-004	2093.25
1-420-3-A-28-20-1-3-000	413	0.10	1.24E-05	1.91	0.41	38.94	1.74E-004	2099.68
1-420-5-A-07-15-1-3-55A	416	0.10	1.42E-05	1.94	0.42	39.19	1.30E-004	2226.97
1-420-5-A-28-13-1-3-000	365	0.09	1.15E-05	1.74	0.36	35.97	1.31E-004	1959.42
1-420-5-A-28-15-1-3-000	371	0.09	1.16E-05	1.77	0.37	36.40	1.31E-004	1981.54
1-420-5-A-28-20-1-3-000	391	0.09	1.21E-05	1.84	0.39	37.74	1.30E-004	2056.07
A-490-3-A-28-15-1-3-551	416	0.10	1.29E-05	1.92	0.42	39.12	2.02E-004	2129.72

ENVIRONMENTAL IMPACTS: 1 M³ OF READY-MIX CONCRETE.								
Indicator	**GWP-tot ***	**GWP-bio ***	**ODP**	**AP**	**EP**	**POCP**	**ADPE**	**ADPF**
.	**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**
A-490-3-A-28-20-1-3-551	420	0.11	1.37E-05	1.95	0.43	39.02	2.33E-004	2169.98
A-490-3-A-28-65-1-3-402	481	0.13	1.59E-05	2.22	0.51	43.99	3.08E-004	2481.21
A-490-3-A-28-65-1-3-523	456	0.11	1.41E-05	2.10	0.46	42.29	1.85E-004	2313.30
A-490-5-A-28-15-1-3-551	386	0.09	1.21E-05	1.83	0.39	37.54	1.34E-004	2059.53
A-560-3-A-28-20-1-3-551	544	0.13	1.61E-05	2.43	0.55	48.50	2.45E-004	2643.99
A-700-3-A-28-20-1-3-551	664	0.15	1.97E-05	3.00	0.67	59.60	2.35E-004	3241.11
F-420-3-A-18-65-1-3-000	465	0.11	1.63E-05	2.15	0.48	42.77	1.75E-004	2477.08
F-490-3-A-18-65-1-3-524	505	0.12	1.74E-05	2.31	0.52	45.91	1.87E-004	2652.67
I-420-5-A-28-15-1-3-63X	461	0.16	1.66E-05	2.03	0.52	38.54	3.95E-004	2401.84
J-420-3-A-28-60-1-3-60O	429	0.10	1.40E-05	2.02	0.44	40.82	1.72E-004	2296.50
O-420-3-A-18-18-1-3-000	434	0.10	1.44E-05	2.01	0.44	40.36	1.81E-004	2269.11
O-420-3-A-18-18-1-3-009	487	0.12	1.55E-05	2.22	0.49	44.34	1.85E-004	2515.31
O-420-3-A-18-23-1-3-000	437	0.10	1.43E-05	2.02	0.44	40.74	1.81E-004	2277.72
O-420-5-A-18-13-1-3-000	377	0.09	1.28E-05	1.79	0.38	36.66	1.34E-004	2064.90
O-420-5-A-18-15-1-3-000	399	0.09	1.34E-05	1.88	0.40	38.22	1.33E-004	2150.02
O-490-3-A-18-15-1-3-406	433	0.10	1.54E-05	2.00	0.44	40.03	1.93E-004	2313.60
O-490-3-A-18-23-1-3-407	449	0.11	1.58E-05	2.06	0.46	41.05	1.89E-004	2373.23
O-560-3-A-18-23-1-3-407	554	0.13	1.84E-05	2.50	0.56	49.54	2.02E-004	2827.84
T-420-5-A-28-20-1-3-000	411	0.10	1.28E-05	1.93	0.41	39.26	1.49E-004	2154.73
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**
1-420-3-A-03-13-1-3-072	144.10	0.00	144.10	3002.88	0.00	3002.88	35.08	57.67	700.62	2.11
1-420-3-A-07-13-1-3-072	124.24	0.00	124.24	2642.07	0.00	2642.07	29.93	48.22	585.84	2.15
1-420-3-A-07-15-1-3-55A	106.84	0.00	106.84	2367.87	0.00	2367.87	81.86	41.29	501.65	2.96

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**
1-420-3-A-28-15-1-3-000	104.74	0.00	104.74	2144.91	0.00	2144.91	61.72	39.19	476.18	2.19
1-420-3-A-28-20-1-3-000	104.15	0.00	104.15	2146.50	0.00	2146.50	86.02	39.30	477.42	2.16
1-420-5-A-07-15-1-3-55A	101.34	0.00	101.34	2265.84	0.00	2265.84	77.34	38.70	470.23	2.97
1-420-5-A-28-13-1-3-000	91.11	0.00	91.11	1995.82	0.00	1995.82	52.37	33.83	411.06	3.09
1-420-5-A-28-15-1-3-000	92.39	0.00	92.39	2017.79	0.00	2017.79	50.07	34.47	418.79	3.07
1-420-5-A-28-20-1-3-000	96.86	0.00	96.86	2090.41	0.00	2090.41	56.07	36.76	446.60	2.99
A-490-3-A-28-15-1-3-551	106.74	0.00	106.74	2196.62	0.00	2196.62	48.01	39.06	474.51	2.29
A-490-3-A-28-20-1-3-551	110.14	0.00	110.14	2232.10	0.00	2232.10	58.28	39.36	478.21	2.24
A-490-3-A-28-65-1-3-402	128.97	0.00	128.97	2532.24	0.00	2532.24	29.00	44.99	546.67	2.52
A-490-3-A-28-65-1-3-523	114.39	0.00	114.39	2363.09	0.00	2363.09	55.54	43.64	530.15	2.21
A-490-5-A-28-15-1-3-551	95.29	0.00	95.29	2097.60	0.00	2097.60	54.95	35.65	433.19	3.12
A-560-3-A-28-20-1-3-551	138.47	0.00	138.47	2703.73	0.00	2703.73	1.28	52.47	637.44	2.32
A-700-3-A-28-20-1-3-551	163.71	0.00	163.71	3307.45	0.00	3307.45	1.58	64.67	785.73	2.68
F-420-3-A-18-65-1-3-000	113.32	0.00	113.32	2518.59	0.00	2518.59	42.14	43.30	526.13	2.28
F-490-3-A-18-65-1-3-524	122.46	0.00	122.46	2698.87	0.00	2698.87	21.35	47.07	571.85	2.35
I-420-5-A-28-15-1-3-63X	138.34	0.00	138.34	2452.54	21.08	2473.62	1.05	43.07	523.29	2.64
J-420-3-A-28-60-1-3-60O	105.93	0.00	105.93	2323.85	0.00	2323.85	110.04	39.35	478.08	2.96
O-420-3-A-18-18-1-3-000	108.52	0.00	108.52	2318.55	0.00	2318.55	30.01	40.85	496.36	2.24
O-420-3-A-18-18-1-3-009	122.06	0.00	122.06	2542.24	21.08	2563.32	27.10	46.26	562.08	2.28
O-420-3-A-18-23-1-3-000	109.15	0.00	109.15	2325.79	0.00	2325.79	25.12	41.14	499.78	2.29
O-420-5-A-18-13-1-3-000	93.01	0.00	93.01	2101.94	0.00	2101.94	18.29	34.48	418.96	3.15
O-420-5-A-18-15-1-3-000	97.87	0.00	97.87	2186.00	0.00	2186.00	22.81	36.89	448.20	3.08
O-490-3-A-18-15-1-3-406	107.90	0.00	107.90	2372.02	0.00	2372.02	19.89	39.85	484.21	2.27
O-490-3-A-18-23-1-3-407	111.17	0.00	111.17	2428.99	0.00	2428.99	22.45	41.65	506.00	2.21
O-560-3-A-18-23-1-3-407	134.91	0.00	134.91	2883.82	0.00	2883.82	28.97	52.43	637.06	2.30
T-420-5-A-28-20-1-3-000	102.48	0.00	102.48	2188.42	0.00	2188.42	80.53	38.67	469.83	2.97
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 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**
1-105-5-A-28-10-0-3-000	187	0.03	0.04	-	0	46.63	0	0
1-105-5-A-28-13-1-3-000	195	0.03	0.04	-	0	46.63	0	0
1-105-5-A-28-15-1-3-000	194	0.03	0.04	-	0	46.63	0	0
1-105-5-A-28-15-1-3-55A	198	0.03	0.03	-	0	46.63	0	0
1-105-5-A-28-20-1-3-000	195	0.03	0.08	-	0	46.63	0	0
1-140-3-A-28-10-0-3-000	220	0.03	0.03	-	0	46.64	0	0
1-140-3-A-28-15-1-3-000	225	0.03	0.06	-	0	46.64	0	0
1-140-5-A-28-10-0-3-000	205	0.03	0.04	-	0	46.64	0	0
1-140-5-A-28-13-1-3-000	207	0.03	0.04	-	0	46.64	0	0
1-140-5-A-28-15-1-3-000	204	0.03	0.07	-	0	46.64	0	0
1-140-5-A-28-15-1-3-55A	234	0.03	0.03	-	0	46.65	0	0
1-140-5-A-28-20-1-3-000	212	0.03	0.08	-	0	46.64	0	0
M-105-0-A-28-13-1-3-000	232	0.03	0.04	-	0	46.64	0	0
M-105-0-A-28-13-1-3-01H	245	0.03	0.03	-	0	46.64	0	0
M-105-0-A-28-13-1-3-020	245	0.03	0.05	-	0	46.64	0	0
M-105-0-A-28-13-1-3-021	233	0.03	0.03	-	0	46.64	0	0
M-105-0-A-28-13-1-3-061	239	0.03	0.03	-	0	46.64	0	0
M-105-0-A-28-15-1-3-000	234	0.03	0.03	-	0	46.64	0	0
M-105-0-A-28-15-1-3-020	244	0.03	0.05	-	0	46.64	0	0
M-105-0-A-28-15-1-3-04J	244	0.03	0.03	-	0	46.64	0	0
M-105-0-A-28-15-1-3-062	240	0.03	0.03	-	0	46.64	0	0
M-105-0-A-28-20-1-3-000	242	0.03	0.03	-	0	46.64	0	0
M-125-0-A-28-13-1-3-000	244	0.03	0.03	-	0	46.64	0	0
M-125-0-A-28-13-1-3-01H	257	0.03	0.03	-	0	46.65	0	0
M-125-0-A-28-13-1-3-020	249	0.03	0.03	-	0	46.65	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**
M-125-0-A-28-13-1-3-021	255	0.03	0.05	-	0	46.65	0	0
M-125-0-A-28-15-1-3-000	244	0.03	0.03	-	0	46.64	0	0
M-125-0-A-28-15-1-3-01P	252	0.03	0.03	-	0	46.65	0	0
M-125-0-A-28-15-1-3-021	248	0.03	0.04	-	0	46.64	0	0
M-125-0-A-28-15-1-3-060	236	0.03	0.03	-	0	46.64	0	0
M-125-0-A-28-15-1-3-061	252	0.03	0.03	-	0	46.65	0	0
M-140-0-A-28-13-1-3-000	247	0.03	0.04	-	0	46.65	0	0
M-140-0-A-28-13-1-3-004	258	0.04	0.03	-	0	46.65	0	0
M-140-0-A-28-20-1-3-01L	291	0.04	0.04	-	0	46.66	0	0
P-036-5-A-28-13-0-3-000	239	0.04	0.03	-	0	46.65	0	0
P-039-5-A-28-13-0-3-000	264	0.04	0.04	-	0	46.66	0	0
P-039-5-A-28-13-0-3-014	259	0.04	0.04	-	0	46.65	0	0
P-039-5-A-28-15-1-3-000	263	0.04	0.04	-	0	46.66	0	0
P-040-5-A-03-13-0-3-000	364	0.05	0.04	-	0	46.69	0	0
P-040-5-A-28-15-1-3-000	267	0.04	0.04	-	0	46.66	0	0
P-041-5-A-03-13-0-3-000	358	0.05	0.04	-	0	46.69	0	0
P-041-5-A-28-13-0-3-000	283	0.04	0.04	-	0	46.67	0	0
P-041-5-A-28-13-0-3-013	279	0.04	0.09	-	0	46.67	0	0
P-042-5-A-03-13-0-3-000	373	0.05	0.04	-	0	46.69	0	0
P-042-5-A-07-13-0-3-000	358	0.05	0.04	-	0	46.69	0	0
P-042-5-A-28-10-0-3-000	266	0.04	0.04	-	0	46.66	0	0
P-042-5-A-28-13-0-3-000	277	0.04	0.04	-	0	46.66	0	0
P-042-5-A-28-15-1-3-000	282	0.04	0.04	-	0	46.67	0	0
P-042-5-A-28-18-0-3-530	410	0.06	0.04	-	0	46.71	0	0
P-043-5-A-03-13-0-3-000	402	0.06	0.04	-	0	46.70	0	0
P-043-5-A-07-13-0-3-000	352	0.05	0.04	-	0	46.69	0	0
P-043-5-A-28-10-0-3-000	276	0.04	0.04	-	0	46.66	0	0
P-043-5-A-28-13-0-3-000	284	0.04	0.04	-	0	46.67	0	0
P-043-5-A-28-13-0-3-025	297	0.04	0.04	-	0	46.67	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-043-5-A-28-18-0-3-530	412	0.06	0.04	-	0	46.71	0	0
P-045-5-A-03-13-0-3-000	406	0.06	0.05	-	0	46.71	0	0
P-045-5-A-07-13-0-3-000	360	0.05	0.04	-	0	46.69	0	0
P-045-5-A-14-13-0-3-000	332	0.05	0.04	-	0	46.68	0	0
P-045-5-A-28-10-0-3-000	279	0.04	0.04	-	0	46.66	0	0
P-045-5-A-28-10-0-3-534	281	0.04	0.09	-	0	46.66	0	0
P-045-5-A-28-13-0-3-000	294	0.04	0.08	-	0	46.67	0	0
P-045-5-A-28-18-0-3-530	423	0.06	0.04	-	0	46.71	0	0
R-010-0-A-28-20-0-3-000	136	0.02	0.03	-	0	46.61	0	0
R-020-0-A-28-20-0-3-000	161	0.02	0.03	-	0	46.62	0	0
R-060-0-A-28-20-0-3-000	198	0.03	0.03	-	0	46.63	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.							

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**
1-175-3-A-28-13-1-3-000	242	0.04	0.03	-	0	46.65	0	0
1-175-3-A-28-15-1-3-000	235	0.03	0.03	-	0	46.65	0	0
1-175-5-A-28-15-1-3-000	181	0.03	0.05	-	0	46.63	0	0
1-175-5-A-28-20-1-3-000	223	0.03	0.12	-	0	46.64	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**
M-175-0-A-28-13-1-3-000	289	0.04	0.04	-	0	46.66	0	0
M-175-0-A-28-15-1-3-004	288	0.04	0.06	-	0	46.66	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. • 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 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**
1-210-3-A-03-13-1-3-000	295	0.04	0.04	-	0	46.67	0	0
1-210-3-A-03-13-1-3-001	306	0.04	0.04	-	0	46.67	0	0
1-210-3-A-03-15-1-3-000	295	0.04	0.05	-	0	46.67	0	0
1-210-3-A-03-15-1-3-001	299	0.04	0.04	-	0	46.67	0	0
1-210-3-A-03-15-1-3-004	306	0.04	0.04	-	0	46.67	0	0
1-210-3-A-03-15-1-3-020	291	0.04	0.04	-	0	46.66	0	0
1-210-3-A-07-13-1-3-000	265	0.04	0.04	-	0	46.66	0	0
1-210-3-A-28-10-0-3-000	258	0.04	0.06	-	0	46.66	0	0
1-210-3-A-28-13-1-3-000	259	0.04	0.05	-	0	46.66	0	0
1-210-3-A-28-13-1-3-001	255	0.04	0.04	-	0	46.66	0	0
1-210-3-A-28-13-1-3-008	265	0.04	0.04	-	0	46.66	0	0
1-210-3-A-28-15-1-3-000	256	0.04	0.04	-	0	46.66	0	0
1-210-3-A-28-15-1-3-001	282	0.04	0.04	-	0	46.67	0	0
1-210-3-A-28-15-1-3-004	289	0.04	0.08	-	0	46.67	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
1-210-3-A-28-15-1-3-01Z	261	0.04	0.05	-	0	46.66	0	0
1-210-3-A-28-15-1-3-060	256	0.04	0.04	-	0	46.66	0	0
1-210-3-A-28-15-1-3-061	268	0.04	0.04	-	0	46.66	0	0
1-210-3-A-28-20-1-3-000	274	0.04	0.05	-	0	46.66	0	0
1-210-5-A-03-13-1-3-000	267	0.04	0.04	-	0	46.66	0	0
1-210-5-A-03-13-1-3-001	272	0.04	0.04	-	0	46.66	0	0
1-210-5-A-03-13-1-3-024	285	0.04	0.04	-	0	46.66	0	0
1-210-5-A-03-15-1-3-000	274	0.04	0.04	-	0	46.66	0	0
1-210-5-A-03-20-1-3-000	277	0.04	0.04	-	0	46.66	0	0
1-210-5-A-07-13-1-3-000	244	0.03	0.04	-	0	46.65	0	0
1-210-5-A-07-13-1-3-024	252	0.04	0.03	-	0	46.65	0	0
1-210-5-A-07-13-1-3-04Z	266	0.04	0.04	-	0	46.66	0	0
1-210-5-A-07-15-1-3-000	242	0.03	0.03	-	0	46.65	0	0
1-210-5-A-07-15-1-3-024	251	0.04	0.03	-	0	46.65	0	0
1-210-5-A-07-20-1-3-000	249	0.04	0.03	-	0	46.65	0	0
1-210-5-A-14-13-1-3-000	232	0.03	0.03	-	0	46.65	0	0
1-210-5-A-14-15-1-3-000	224	0.03	0.03	-	0	46.64	0	0
1-210-5-A-14-15-1-3-001	217	0.03	0.03	-	0	46.64	0	0
1-210-5-A-28-10-0-3-000	235	0.03	0.04	-	0	46.65	0	0
1-210-5-A-28-10-0-3-001	228	0.03	0.03	-	0	46.65	0	0
1-210-5-A-28-13-1-3-000	241	0.04	0.04	-	0	46.65	0	0
1-210-5-A-28-13-1-3-001	241	0.04	0.03	-	0	46.65	0	0
1-210-5-A-28-13-1-3-01P	250	0.04	0.04	-	0	46.65	0	0
1-210-5-A-28-13-1-3-025	253	0.04	0.04	-	0	46.65	0	0
1-210-5-A-28-13-1-3-04M	267	0.04	0.04	-	0	46.65	0	0
1-210-5-A-28-13-1-3-04W	260	0.04	0.04	-	0	46.65	0	0
1-210-5-A-28-15-1-3-000	245	0.04	0.05	-	0	46.65	0	0
1-210-5-A-28-15-1-3-001	250	0.04	0.04	-	0	46.65	0	0
1-210-5-A-28-15-1-3-004	263	0.04	0.04	-	0	46.66	0	0
1-210-5-A-28-15-1-3-009	246	0.04	0.03	-	0	46.65	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**
1-210-5-A-28-15-1-3-025	256	0.04	0.04	-	0	46.65	0	0
1-210-5-A-28-15-1-3-03Z	252	0.04	0.04	-	0	46.65	0	0
1-210-5-A-28-15-1-3-04M	273	0.04	0.04	-	0	46.66	0	0
1-210-5-A-28-15-1-3-04W	256	0.04	0.05	-	0	46.65	0	0
1-210-5-A-28-15-1-3-061	247	0.04	0.04	-	0	46.65	0	0
1-210-5-A-28-15-1-3-55A	251	0.04	0.06	-	0	46.65	0	0
1-210-5-A-28-20-1-3-000	256	0.04	0.05	-	0	46.66	0	0
1-210-5-A-28-20-1-3-04W	263	0.04	0.04	-	0	46.65	0	0
1-210-5-A-28-20-1-3-061	249	0.04	0.04	-	0	46.65	0	0
1-245-3-A-03-13-1-3-001	335	0.05	0.04	-	0	46.68	0	0
1-245-3-A-14-13-1-3-000	260	0.04	0.04	-	0	46.66	0	0
1-245-3-A-28-10-0-3-000	255	0.04	0.14	-	0	46.66	0	0
1-245-3-A-28-13-1-3-000	260	0.04	0.04	-	0	46.66	0	0
1-245-3-A-28-13-1-3-001	277	0.04	0.04	-	0	46.66	0	0
1-245-3-A-28-15-1-3-000	274	0.04	0.09	-	0	46.66	0	0
1-245-3-A-28-20-1-3-001	269	0.04	0.15	-	0	46.66	0	0
1-245-5-A-03-13-1-3-000	327	0.05	0.04	-	0	46.68	0	0
1-245-5-A-03-15-1-3-000	305	0.04	0.04	-	0	46.67	0	0
1-245-5-A-14-13-1-3-000	244	0.04	0.03	-	0	46.65	0	0
1-245-5-A-14-15-1-3-001	244	0.04	0.07	-	0	46.65	0	0
1-245-5-A-28-10-0-3-000	240	0.04	0.05	-	0	46.65	0	0
1-245-5-A-28-13-1-3-000	241	0.04	0.03	-	0	46.65	0	0
1-245-5-A-28-13-1-3-001	245	0.04	0.04	-	0	46.65	0	0
1-245-5-A-28-15-1-3-000	245	0.04	0.03	-	0	46.65	0	0
1-245-5-A-28-15-1-3-001	282	0.04	0.04	-	0	46.66	0	0
1-280-3-A-03-13-1-3-000	362	0.05	0.04	-	0	46.69	0	0
1-280-3-A-03-13-1-3-001	385	0.05	0.04	-	0	46.70	0	0
1-280-3-A-03-15-1-3-001	399	0.05	0.04	-	0	46.70	0	0
1-280-3-A-03-15-1-3-009	379	0.05	0.04	-	0	46.69	0	0
1-280-3-A-03-15-1-3-01O	383	0.05	0.04	-	0	46.69	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-03-20-1-3-000	371	0.05	0.04	-	0	46.69	0	0
1-280-3-A-07-20-1-3-000	331	0.05	0.04	-	0	46.68	0	0
1-280-3-A-14-13-1-3-000	289	0.04	0.06	-	0	46.67	0	0
1-280-3-A-14-15-1-3-000	290	0.04	0.04	-	0	46.67	0	0
1-280-3-A-14-20-1-3-000	290	0.04	0.04	-	0	46.67	0	0
1-280-3-A-14-20-1-3-001	293	0.04	0.04	-	0	46.67	0	0
1-280-3-A-28-10-0-3-000	274	0.04	0.04	-	0	46.66	0	0
1-280-3-A-28-10-0-3-001	272	0.04	0.04	-	0	46.66	0	0
1-280-3-A-28-13-1-3-000	272	0.04	0.04	-	0	46.66	0	0
1-280-3-A-28-13-1-3-001	289	0.04	0.11	-	0	46.67	0	0
1-280-3-A-28-13-1-3-054	304	0.04	0.04	-	0	46.67	0	0
1-280-3-A-28-15-1-3-000	284	0.04	0.04	-	0	46.66	0	0
1-280-3-A-28-15-1-3-001	285	0.04	0.04	-	0	46.67	0	0
1-280-3-A-28-15-1-3-004	293	0.04	0.04	-	0	46.67	0	0
1-280-3-A-28-15-1-3-060	279	0.04	0.04	-	0	46.66	0	0
1-280-3-A-28-15-1-3-061	278	0.04	0.04	-	0	46.66	0	0
1-280-3-A-28-20-1-3-000	293	0.04	0.04	-	0	46.67	0	0
1-280-3-A-28-20-1-3-001	281	0.04	0.04	-	0	46.67	0	0
1-280-3-A-28-20-1-3-060	296	0.04	0.04	-	0	46.67	0	0
1-280-3-A-28-20-1-3-061	293	0.04	0.04	-	0	46.67	0	0
1-280-3-A-28-20-1-3-62F	267	0.04	0.05	-	0	46.66	0	0
1-280-5-A-03-13-1-3-000	343	0.05	0.04	-	0	46.68	0	0
1-280-5-A-03-13-1-3-001	341	0.05	0.04	-	0	46.68	0	0
1-280-5-A-03-15-1-3-000	338	0.05	0.04	-	0	46.68	0	0
1-280-5-A-03-15-1-3-004	342	0.05	0.04	-	0	46.68	0	0
1-280-5-A-03-15-1-3-009	348	0.05	0.04	-	0	46.68	0	0
1-280-5-A-03-15-1-3-073	351	0.05	0.04	-	0	46.68	0	0
1-280-5-A-07-13-1-3-000	300	0.04	0.04	-	0	46.67	0	0
1-280-5-A-07-13-1-3-00V	290	0.04	0.04	-	0	46.66	0	0
1-280-5-A-07-13-1-3-024	322	0.04	0.04	-	0	46.67	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**
1-280-5-A-07-15-1-3-000	293	0.04	0.04	-	0	46.67	0	0
1-280-5-A-07-20-1-3-000	311	0.04	0.04	-	0	46.67	0	0
1-280-5-A-14-13-1-3-000	266	0.04	0.04	-	0	46.66	0	0
1-280-5-A-14-15-1-3-000	279	0.04	0.04	-	0	46.66	0	0
1-280-5-A-14-15-1-3-001	300	0.04	0.04	-	0	46.67	0	0
1-280-5-A-28-10-0-3-000	254	0.04	0.04	-	0	46.65	0	0
1-280-5-A-28-13-1-3-000	260	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-13-1-3-001	268	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-13-1-3-009	269	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-13-1-3-024	277	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-13-1-3-02H	265	0.04	0.04	-	0	46.65	0	0
1-280-5-A-28-13-1-3-04M	290	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-13-1-3-04W	283	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-13-1-3-061	262	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-15-1-3-000	265	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-15-1-3-001	267	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-15-1-3-002	266	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-15-1-3-004	282	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-15-1-3-009	270	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-15-1-3-025	276	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-15-1-3-04W	278	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-15-1-3-060	263	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-15-1-3-061	268	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-15-1-3-55A	307	0.04	0.04	-	0	46.67	0	0
1-280-5-A-28-15-1-3-66L	314	0.04	0.04	-	0	46.67	0	0
1-280-5-A-28-20-1-3-000	271	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-20-1-3-001	264	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-20-1-3-03Z	285	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-20-1-3-060	267	0.04	0.04	-	0	46.66	0	0
1-280-5-A-28-20-1-3-061	276	0.04	0.04	-	0	46.66	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
1-315-3-A-07-15-1-3-001	339	0.05	0.04	-	0	46.68	0	0
1-315-5-A-03-15-1-3-000	352	0.05	0.12	-	0	46.69	0	0
1-315-5-A-07-15-1-3-000	318	0.04	0.04	-	0	46.67	0	0
1-315-5-A-14-15-1-3-000	283	0.04	0.04	-	0	46.66	0	0
1-315-5-A-28-13-1-3-000	1099	0.13	0.05	-	0	46.91	0	0
1-315-5-A-28-13-1-3-001	306	0.04	0.04	-	0	46.67	0	0
1-315-5-A-28-15-1-3-000	299	0.04	0.05	-	0	46.67	0	0
1-315-5-A-28-15-1-3-004	308	0.04	0.04	-	0	46.67	0	0
1-350-3-A-03-15-1-3-000	443	0.06	0.04	-	0	46.72	0	0
1-350-3-A-03-15-1-3-004	450	0.06	0.04	-	0	46.72	0	0
1-350-3-A-07-20-1-3-000	407	0.06	0.04	-	0	46.71	0	0
1-350-3-A-28-13-1-3-000	288	0.04	0.04	-	0	46.67	0	0
1-350-3-A-28-13-1-3-001	308	0.05	0.17	-	0	46.67	0	0
1-350-3-A-28-15-1-3-000	313	0.05	0.06	-	0	46.68	0	0
1-350-3-A-28-15-1-3-001	310	0.04	0.04	-	0	46.68	0	0
1-350-3-A-28-15-1-3-00V	304	0.04	0.04	-	0	46.67	0	0
1-350-3-A-28-15-1-3-55A	303	0.05	0.04	-	0	46.68	0	0
1-350-3-A-28-20-1-3-000	324	0.05	0.05	-	0	46.68	0	0
1-350-3-A-28-20-1-3-060	313	0.05	0.04	-	0	46.68	0	0
1-350-3-A-28-20-1-3-061	328	0.05	0.04	-	0	46.68	0	0
1-350-5-A-03-15-1-3-000	398	0.05	0.04	-	0	46.70	0	0
1-350-5-A-03-15-1-3-001	428	0.06	0.04	-	0	46.71	0	0
1-350-5-A-07-13-1-3-000	356	0.05	0.05	-	0	46.69	0	0
1-350-5-A-07-15-1-3-000	358	0.05	0.04	-	0	46.69	0	0
1-350-5-A-28-13-1-3-000	281	0.04	0.04	-	0	46.66	0	0
1-350-5-A-28-13-1-3-024	286	0.04	0.04	-	0	46.66	0	0
1-350-5-A-28-15-1-3-000	293	0.04	0.05	-	0	46.67	0	0
1-350-5-A-28-15-1-3-004	307	0.04	0.04	-	0	46.67	0	0
1-350-5-A-28-15-1-3-55A	301	0.04	0.04	-	0	46.67	0	0
1-350-5-A-28-20-1-3-000	301	0.04	0.04	-	0	46.67	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-28-13-1-3-000	287	0.04	0.04	-	0	46.66	0	0
3-280-3-A-28-13-1-3-001	292	0.04	0.04	-	0	46.67	0	0
3-280-5-A-28-13-1-3-000	302	0.04	0.04	-	0	46.67	0	0
3-280-5-A-28-13-1-3-66E	305	0.04	0.04	-	0	46.67	0	0
3-280-5-A-28-15-1-3-000	266	0.04	0.04	-	0	46.66	0	0
3-280-5-A-28-15-1-3-009	273	0.04	0.04	-	0	46.66	0	0
3-280-5-A-28-20-1-3-009	311	0.04	0.04	-	0	46.67	0	0
8-210-3-A-28-15-1-3-000	243	0.04	0.04	-	0	46.65	0	0
8-210-3-A-28-20-1-3-000	249	0.04	0.04	-	0	46.65	0	0
8-210-5-A-28-13-1-3-000	314	0.04	0.04	-	0	46.67	0	0
8-280-3-A-28-13-1-3-000	272	0.04	0.04	-	0	46.66	0	0
8-280-3-A-28-15-1-3-000	272	0.04	0.04	-	0	46.66	0	0
8-280-3-A-28-20-1-3-000	283	0.04	0.04	-	0	46.67	0	0
8-280-5-A-28-15-1-3-000	252	0.04	0.04	-	0	46.65	0	0
8-315-5-A-28-15-1-3-000	284	0.04	0.04	-	0	46.67	0	0
8-350-3-A-28-15-1-3-000	316	0.05	0.04	-	0	46.68	0	0
8-350-3-A-28-20-1-3-000	313	0.05	0.04	-	0	46.68	0	0
8-350-5-A-28-15-1-3-000	301	0.04	0.04	-	0	46.67	0	0
C-210-3-A-28-25-1-3-000	256	0.04	0.04	-	0	46.65	0	0
F-210-3-A-18-65-1-3-000	303	0.04	0.04	-	0	46.67	0	0
F-280-3-A-18-65-1-3-000	332	0.05	0.04	-	0	46.68	0	0
F-350-3-A-18-65-1-3-000	333	0.05	0.05	-	0	46.68	0	0
F-350-3-A-18-65-1-3-001	321	0.04	0.06	-	0	46.67	0	0
I-210-3-A-28-15-1-3-004	259	0.04	0.04	-	0	46.66	0	0
I-280-5-A-28-13-1-3-000	254	0.04	0.07	-	0	46.66	0	0
J-210-3-A-28-65-1-3-000	272	0.04	0.04	-	0	46.66	0	0
J-210-3-A-28-65-1-3-464	345	0.05	0.12	-	0	46.68	0	0
J-210-3-A-28-65-1-3-62L	307	0.04	0.08	-	0	46.67	0	0
J-245-3-A-28-65-1-3-000	280	0.04	0.04	-	0	46.66	0	0
J-245-3-A-28-65-1-3-020	291	0.04	0.14	-	0	46.66	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
M-210-0-A-28-13-1-3-061	286	0.04	0.04	-	0	46.66	0	0
M-210-0-A-28-15-1-3-05E	301	0.04	0.04	-	0	46.66	0	0
O-210-3-A-18-13-1-3-000	313	0.04	0.04	-	0	46.67	0	0
O-210-3-A-18-15-1-3-000	271	0.04	0.04	-	0	46.66	0	0
O-210-3-A-18-18-1-3-000	280	0.04	0.05	-	0	46.66	0	0
O-210-3-A-18-18-1-3-060	270	0.04	0.04	-	0	46.66	0	0
O-210-3-A-18-20-1-3-000	277	0.04	0.04	-	0	46.66	0	0
O-210-3-A-18-23-1-3-000	286	0.04	0.04	-	0	46.66	0	0
O-210-3-A-20-20-1-3-000	286	0.04	0.04	-	0	46.66	0	0
O-210-3-A-20-23-1-3-000	292	0.04	0.04	-	0	46.67	0	0
O-210-5-A-18-13-1-3-000	249	0.04	0.04	-	0	46.65	0	0
O-210-5-A-18-13-1-3-001	240	0.03	0.03	-	0	46.65	0	0
O-210-5-A-18-13-1-3-009	267	0.04	0.04	-	0	46.66	0	0
O-210-5-A-18-13-1-3-024	255	0.04	0.05	-	0	46.65	0	0
O-210-5-A-18-13-1-3-072	259	0.04	0.07	-	0	46.65	0	0
O-210-5-A-18-15-1-3-000	252	0.04	0.04	-	0	46.65	0	0
O-210-5-A-18-15-1-3-001	239	0.03	0.03	-	0	46.65	0	0
O-210-5-A-18-15-1-3-025	257	0.04	0.04	-	0	46.65	0	0
O-245-3-A-18-15-1-3-000	268	0.04	0.04	-	0	46.66	0	0
O-245-5-A-18-15-1-3-000	253	0.04	0.04	-	0	46.65	0	0
O-245-5-A-20-13-1-3-000	236	0.03	0.03	-	0	46.65	0	0
O-280-3-A-18-13-1-3-000	292	0.04	0.04	-	0	46.67	0	0
O-280-3-A-18-15-1-3-000	297	0.04	0.04	-	0	46.67	0	0
O-280-3-A-18-15-1-3-001	303	0.04	0.04	-	0	46.67	0	0
O-280-3-A-18-18-1-3-000	298	0.04	0.04	-	0	46.67	0	0
O-280-3-A-18-18-1-3-001	297	0.04	0.04	-	0	46.67	0	0
O-280-3-A-18-20-1-3-000	296	0.04	0.04	-	0	46.67	0	0
O-280-3-A-18-23-1-3-000	292	0.04	0.04	-	0	46.67	0	0
O-280-3-A-20-20-1-3-000	290	0.04	0.04	-	0	46.67	0	0
O-280-5-A-18-13-1-3-000	270	0.04	0.04	-	0	46.66	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-280-5-A-18-13-1-3-024	280	0.04	0.04	-	0	46.66	0	0
O-280-5-A-18-15-1-3-000	263	0.04	0.04	-	0	46.66	0	0
O-280-5-A-18-15-1-3-001	266	0.04	0.04	-	0	46.66	0	0
O-350-3-A-18-13-1-3-000	297	0.04	0.04	-	0	46.67	0	0
O-350-3-A-18-15-1-3-000	309	0.04	0.04	-	0	46.67	0	0
O-350-3-A-18-18-1-3-000	325	0.05	0.04	-	0	46.68	0	0
O-350-3-A-18-20-1-3-000	329	0.05	0.04	-	0	46.68	0	0
O-350-3-A-18-23-1-3-000	325	0.05	0.04	-	0	46.68	0	0
O-350-5-A-18-13-1-3-000	286	0.04	0.04	-	0	46.66	0	0
O-350-5-A-18-15-1-3-000	286	0.04	0.04	-	0	46.66	0	0
T-210-3-A-28-20-1-3-000	276	0.04	0.04	-	0	46.66	0	0
T-210-5-A-28-20-1-3-000	256	0.04	0.04	-	0	46.65	0	0
T-210-5-A-28-20-1-3-464	272	0.04	0.08	-	0	46.66	0	0
T-245-3-A-28-20-1-3-000	267	0.04	0.04	-	0	46.66	0	0
T-245-5-A-28-20-1-3-000	254	0.04	0.05	-	0	46.65	0	0
T-280-3-A-28-20-1-3-000	297	0.04	0.07	-	0	46.67	0	0
T-280-3-A-28-20-1-3-59M	306	0.04	0.12	-	0	46.67	0	0
T-280-3-A-28-23-1-3-63F	330	0.05	0.04	-	0	46.68	0	0
T-280-5-A-28-18-1-3-665	288	0.04	0.04	-	0	46.67	0	0
T-280-5-A-28-20-1-3-000	272	0.04	0.04	-	0	46.66	0	0
T-280-5-A-28-20-1-3-200	284	0.04	0.04	-	0	46.66	0	0
T-280-5-A-28-20-1-3-66G	277	0.04	0.04	-	0	46.66	0	0
T-350-3-A-28-20-1-3-000	332	0.05	0.04	-	0	46.68	0	0
T-350-5-A-28-20-1-3-000	310	0.04	0.05	-	0	46.67	0	0
V-210-3-A-28-65-1-3-000	254	0.04	0.04	-	0	46.65	0	0
V-210-3-A-28-65-1-3-012	262	0.04	0.04	-	0	46.65	0	0
V-280-3-A-28-65-1-3-000	304	0.04	0.04	-	0	46.67	0	0
V-280-3-A-28-65-1-3-001	320	0.05	0.14	-	0	46.68	0	0
V-315-3-A-28-65-1-3-000	337	0.05	0.04	-	0	46.68	0	0
V-350-3-A-03-65-1-3-000	471	0.06	0.04	-	0	46.73	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**
V-350-3-A-28-65-1-3-000	319	0.05	0.04	-	0	46.68	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 >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**
1-420-3-A-03-13-1-3-072	526	0.07	0.04	-	0	46.75	0	0
1-420-3-A-07-13-1-3-072	449	0.06	0.04	-	0	46.72	0	0
1-420-3-A-07-15-1-3-55A	396	0.05	0.04	-	0	46.70	0	0
1-420-3-A-28-15-1-3-000	365	0.05	0.06	-	0	46.69	0	0
1-420-3-A-28-20-1-3-000	366	0.05	0.04	-	0	46.69	0	0
1-420-5-A-07-15-1-3-55A	370	0.05	0.04	-	0	46.69	0	0
1-420-5-A-28-13-1-3-000	325	0.05	0.06	-	0	46.68	0	0
1-420-5-A-28-15-1-3-000	330	0.05	0.04	-	0	46.68	0	0
1-420-5-A-28-20-1-3-000	347	0.05	0.04	-	0	46.69	0	0
A-490-3-A-28-15-1-3-551	370	0.05	0.07	-	0	46.69	0	0
A-490-3-A-28-20-1-3-551	373	0.05	0.04	-	0	46.69	0	0
A-490-3-A-28-65-1-3-402	427	0.06	0.04	-	0	46.71	0	0
A-490-3-A-28-65-1-3-523	405	0.06	0.09	-	0	46.71	0	0
A-490-5-A-28-15-1-3-551	343	0.05	0.04	-	0	46.68	0	0
A-560-3-A-28-20-1-3-551	482	0.07	0.04	-	0	46.73	0	0
A-700-3-A-28-20-1-3-551	587	0.08	0.04	-	0	46.77	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
F-420-3-A-18-65-1-3-000	413	0.06	0.04	-	0	46.71	0	0
F-490-3-A-18-65-1-3-524	449	0.06	0.04	-	0	46.72	0	0
I-420-5-A-28-15-1-3-63X	410	0.06	0.04	-	0	46.71	0	0
J-420-3-A-28-60-1-3-60O	382	0.05	0.04	-	0	46.69	0	0
O-420-3-A-18-18-1-3-000	386	0.05	0.04	-	0	46.70	0	0
O-420-3-A-18-18-1-3-009	432	0.06	0.04	-	0	46.71	0	0
O-420-3-A-18-23-1-3-000	388	0.05	0.04	-	0	46.70	0	0
O-420-5-A-18-13-1-3-000	336	0.05	0.05	-	0	46.68	0	0
O-420-5-A-18-15-1-3-000	355	0.05	0.04	-	0	46.69	0	0
O-490-3-A-18-15-1-3-406	386	0.05	0.05	-	0	46.70	0	0
O-490-3-A-18-23-1-3-407	400	0.05	0.05	-	0	46.70	0	0
O-560-3-A-18-23-1-3-407	491	0.07	0.04	-	0	46.73	0	0
T-420-5-A-28-20-1-3-000	365	0.05	0.04	-	0	46.69	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. • 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 a 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 a 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