

ENVIRONMENTAL PRODUCT DECLARATION OF READY MIXED CONCRETE



In accordance with ISO 14025:2026 and ISO 21930:2017

Product name:

NRMCA Member Industry-Average Ready Mixed Concrete – Version 4

EPD owner:

National Ready Mixed Concrete Association (NRMCA)

Type of EPD:

Sector EPD; industry-average

EPD registration number:

EPD-IES-0034276

Programme:

The International EPD System | www.environdec.com

Programme operator:

EPD International AB

Licensee:

EPD North America

Version date:

2026-10-09

Validity date:

2031-10-09

An EPD may be updated or depublished if conditions change. To find the latest version and confirm validity, see www.environdec.com.
This EPD uses NSF 1112-26 Concrete, Version 3.0, an external PCR accepted by the International EPD System.



Environmental Product Declaration

NRMCA Member Industry-Average Ready Mixed Concrete - Version 4

Declared Product	NRMCA Member Industry-Average Ready Mixed Concrete - Version 4
Publication / Version Date	2026-10-09
EPD Number	EPD-IES-0034276
Valid Until	2031-10-09
Declaration Owner	National Ready Mixed Concrete Association (NRMCA) 66 Canal Center Plaza, Suite 250 Alexandria, VA 22314 703-706-4800 www.nrmca.org
Program Operator	EPD International AB / The International EPD System Licensee: EPD North America www.environdec.com
LCA and EPD Developer	WAP Sustainability, LLC 103 Powell Ct., Suite 200 Brentwood, TN 37027 (855) 452-2522 info@WAPSustainability.com
Product Category Rule	External PCR for Concrete (Version 3.0): NSF 1112-26, Product Category Rule for Environmental Product Declarations - Concrete, Version 3.0 (2026). Prepared by NSF; accepted by the International EPD System for regulatory use on July 29, 2026; valid through April 30, 2031. This external PCR complies with ISO 21930:2017 and is not EN 15804 compliant.
Primary Data Period	Primary data were collected for full calendar-year reporting periods covering January 1 through December 31, 2023 and January 1 through December 31, 2024. Each participating facility contributed one complete 12-month calendar-year dataset from one of those two years.
Industry Dataset	The dataset includes 1,238 participating ready mixed concrete facilities.
Independent LCA Review / EPD Verification	Individual EPD verification without a pre-verified LCA/EPD tool. Third-party verifier: Stephen Forson, ViridisPride. Approved by: The International EPD System.
General Programme Instructions	The International EPD System General Programme Instructions, Version 5.0.1 (2025).
EPD tool developer	WAP Sustainability, LLC (Theta Concrete V1.2). This EPD is being individually verified and does not rely on pre-verification of the software tool.
LCA software / version	Theta Concrete, Version 1.2. Background LCI data developed in SimaPro 10.4.
LCI database / versions	Federal LCA Commons / USLCI controlled source schedule with process-specific dataset vintages; DOE/NETL balancing-authority electricity (2022); ecoinvent 3.10; current industry EPD datasets.
LCIA methods / versions	IPCC AR5, 100-year GWP; TRACI 2.2 for ODP, AP, EPM, EPF and SFP; CML-IA baseline / CML 3.1 for ADPe and ADPf, with NSF 1112-26 Annex A Table 10 factors applied to applicable ADPe mineral flows; TRACI 2.1 EPT retained as supplemental.
Known data gaps	Known gaps are limited to identified proxy/background-data constraints: European admixture EPDs are used as a proxy for North American admixtures; ecoinvent 3.10 expanded-clay data are used as a conservative proxy for manufactured lightweight aggregate; some background EPDs do not separately support GWP-LULUC/GWPL; and consistent HLRW/ILLRW inventory coverage is not available across the applicable background LCI sources, so HLRW and ILLRW are reported as "-".



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GENERAL INFORMATION

In accordance with ISO 14025:2026 and ISO 21930:2017:

Program	The International EPD System (www.environdec.com)
Program operator	EPD International AB
Licensee	EPD North America
Type of EPD	Sector EPD; industry-average
EPD registration number	EPD-IES-0034276
Version date	2026-10-09
Validity date	2031-10-09
Program address	EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden
Program website	www.environdec.com
Program e-mail	support@environdec.com
General Program Instructions	Version 5.0.1 (2025)

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com.

This EPD is developed using NSF 1112-26, Product Category Rule for Environmental Product Declarations – Concrete, Version 3.0, an external PCR accepted by the International EPD System on 2026-07-29. The EPD is intended for use in North American procurement and construction-product applications, including Buy Clean programs where applicable. ISO 21930:2017 serves as the core PCR framework.

Product Category Rules (PCR)

Product Category Rules (PCR)	ISO 21930:2017 serves as the core PCR framework. Sub-category/external PCR: NSF 1112-26, Product Category Rule for Environmental Product Declarations – Concrete, Version 3.0 (2026), accepted by the International EPD System on 2026-07-29; UN CPC 375.
PCR registration number	Not applicable / external PCR accepted by the International EPD System on 2026-07-29; use any programme-assigned external-PCR identifier at publication if provided.
PCR review was conducted by	Product Category Rules Independent Review Panel: Thomas P. Gloria, PhD, Industrial Ecology Consultants (Chair); Jack Geibig, PE, Ecoform; Bill Stough, MM, Bill Stough LLC.

Third-party Verification

This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by: WAP Sustainability, LLC.

This Environmental Product Declaration and the supporting life cycle assessment were independently verified in accordance with ISO 14044 and the reference PCR by:

Stephen Forson, ViridisPride. Individual EPD verification was performed without reliance on a pre-verified LCA/EPD tool.

Third-party verifier: Stephen Forson, ViridisPride.

Approved by: The International EPD System.

Procedure for follow-up of data during EPD validity involves third-party verifier: No.

Explanatory material, including the Version 4 LCA project report, participating-manufacturer information, and facility/location information where permitted, can be obtained through the NRMCA Environmental Product Declarations program: <https://www.nrmca.org/association-resources/sustainability/environmental-product-declarations/>.

The contributing-manufacturer list will also be published through the NRMCA EPD Program Search:
<https://www.nrmca.org/association-resources/sustainability/environmental-product-declarations/edpd-program-search/>.

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (including identical declared or functional units); have identical scope in terms of included life-cycle stages (unless an excluded stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.

For further information about comparability, see ISO 14025.

INFORMATION ABOUT EPD OWNER

Owner of the EPD	National Ready Mixed Concrete Association (NRMCA)
Address	66 Canal Center Plaza, Suite 250, Alexandria, VA 22314, USA
Contact	703-706-4800 www.nrmca.org
LCA practitioner commissioned by EPD owner	WAP Sustainability, LLC, 103 Powell Ct., Suite 200, Brentwood, TN 37027; (855) 452-2522 info@WAPSustainability.com
Description of the organisation	NRMCA is an industry association representing ready mixed concrete producers and companies that provide materials, equipment, and services to the ready mixed concrete industry.
Product- or management-system certifications	No organization-level certification claim is declared in this EPD.

PRODUCT INFORMATION

Product name	NRMCA Member Industry-Average Ready Mixed Concrete – Version 4
Product identification	120 national industry-average mix designs classified by normal-weight/high-strength/lightweight class, 28-day specified compressive strength, air entrainment, and cementitious-material configuration.
UN CPC code	375 - Articles of concrete, cement and plaster
Other product classification	UNSPSC 30111500 - Ready Mix Concrete; CSI MasterFormat 03 30 00 - Cast-in-Place Concrete.
Product description	Ready mixed concrete manufactured by batching cementitious materials, aggregates, water, admixtures, and other applicable constituents at permanent or mobile concrete plants and delivered in ready-to-use form.
Production sites/Manufacturers	1,238 participating U.S. facilities. Facility/city/manufacturer information is maintained separately through the NRMCA EPD program and made available through the NRMCA EPD program resources.
Relevant websites	https://www.nrmca.org/association-resources/sustainability/environmental-product-declarations/ https://www.nrmca.org/association-resources/sustainability/environmental-product-declarations/edpd-program-search/ www.environdec.com
Product status	Good; intermediate construction product for incorporation into construction works.
Packaging	None; ready mixed concrete is delivered in bulk.
Geographic market	United States.

The EPD does not make ratings, judgments, or direct claims of environmental superiority relative to other products or companies.

DESCRIPTION OF INDUSTRY AND PRODUCT

Description of Industry

The National Ready Mixed Concrete Association (NRMCA) commissioned this industry-average EPD on behalf of participating ready mixed concrete producers. The Version 4 national dataset aggregates manufacturing information from 1,238 U.S. facilities. NRMCA reports approximately 6,500 U.S. ready mixed concrete plants; the represented facility count therefore corresponds to approximately 20% of the U.S. plant population. This is a plant-count coverage estimate, not a directly measured production-volume share.

Description of Product

Ready mixed concrete is manufactured by batching cementitious materials, aggregates, water, admixtures, and other applicable constituents at permanent or mobile concrete plants and delivering the fresh concrete in ready-to-use form. The V4 product schedule contains 120 national-average mix designs classified by concrete class, 28-day specified compressive strength, air entrainment, and cementitious-material configuration.

The 120 products include 96 normal-weight and high-strength mixes and 24 structural lightweight mixes. Normal-weight products cover 2,500, 3,000, 4,000, and 5,000 psi in both air-entrained (AE) and non-air-entrained (NAE) configurations. High-strength products cover 6,000, 8,000, 10,000, and 12,000 psi. Lightweight products cover 3,000, 4,000, and 5,000 psi and are air-entrained.

Eight cementitious-material configurations are modeled at each applicable strength: 0% SCM (portland cement reference), 20%, 30%, and 40% fly ash; 30%, 40%, and 50% slag cement; and a ternary configuration containing 20% fly ash and 30% slag cement. V4 modeling applies the current supplier-derived portland cement (PC), portland-limestone cement (PLC), fly-ash, and slag-cement supply shares used in the underlying LCA.

DECLARED PRODUCT RANGE CLASSIFICATION

Mix code	Cementitious-material configuration
00-FA/SL	0% SCM / portland cement reference
20-FA	20% fly ash
30-FA	30% fly ash
30-SL	30% slag cement
40-FA	40% fly ash
40-SL	40% slag cement
50-FA/SL	20% fly ash + 30% slag cement
50-SL	50% slag cement

Declared product performance characteristics and mix identification

Specified compressive strength is the 28-day design strength. The consolidated tables below satisfy the PCR performance-characteristic disclosure for the 120 declared products and link the EPD result-table codes to the self-explanatory Version 4 LCA mix IDs. Exact mix proportions are reported in Appendix C of the Version 4 LCA.

Normal-weight – air-entrained

EPD mix code	LCA mix ID	Strength	Cure time	w/cm	Density	Air entrained	Lightweight
2500-00-FA/SL-AE	NW-2500-PC-AE	2500 psi	28 days	0.609	2,239 kg/m ³	Yes	No
2500-20-FA-AE	NW-2500-FA20-AE	2500 psi	28 days	0.578	2,210 kg/m ³	Yes	No
2500-30-FA-AE	NW-2500-FA30-AE	2500 psi	28 days	0.563	2,195 kg/m ³	Yes	No
2500-30-SL-AE	NW-2500-SL30-AE	2500 psi	28 days	0.609	2,234 kg/m ³	Yes	No
2500-40-FA-AE	NW-2500-FA40-AE	2500 psi	28 days	0.548	2,178 kg/m ³	Yes	No
2500-40-SL-AE	NW-2500-SL40-AE	2500 psi	28 days	0.609	2,232 kg/m ³	Yes	No
2500-50-SL-AE	NW-2500-SL50-AE	2500 psi	28 days	0.609	2,230 kg/m ³	Yes	No
2500-50-FA/SL-AE	NW-2500-FA20SL30-AE	2500 psi	28 days	0.578	2,205 kg/m ³	Yes	No

EPD mix code	LCA mix ID	Strength	Cure time	w/cm	Density	Air entrained	Lightweight
3000-00-FA/SL-AE	NW-3000-PC-AE	3000 psi	28 days	0.537	2,245 kg/m³	Yes	No
3000-20-FA-AE	NW-3000-FA20-AE	3000 psi	28 days	0.511	2,213 kg/m³	Yes	No
3000-30-FA-AE	NW-3000-FA30-AE	3000 psi	28 days	0.497	2,195 kg/m³	Yes	No
3000-30-SL-AE	NW-3000-SL30-AE	3000 psi	28 days	0.537	2,239 kg/m³	Yes	No
3000-40-FA-AE	NW-3000-FA40-AE	3000 psi	28 days	0.484	2,176 kg/m³	Yes	No
3000-40-SL-AE	NW-3000-SL40-AE	3000 psi	28 days	0.537	2,237 kg/m³	Yes	No
3000-50-SL-AE	NW-3000-SL50-AE	3000 psi	28 days	0.537	2,235 kg/m³	Yes	No
3000-50-FA/SL-AE	NW-3000-FA20SL30-AE	3000 psi	28 days	0.511	2,206 kg/m³	Yes	No
4000-00-FA/SL-AE	NW-4000-PC-AE	4000 psi	28 days	0.424	2,259 kg/m³	Yes	No
4000-20-FA-AE	NW-4000-FA20-AE	4000 psi	28 days	0.403	2,217 kg/m³	Yes	No
4000-30-FA-AE	NW-4000-FA30-AE	4000 psi	28 days	0.393	2,195 kg/m³	Yes	No
4000-30-SL-AE	NW-4000-SL30-AE	4000 psi	28 days	0.424	2,251 kg/m³	Yes	No
4000-40-FA-AE	NW-4000-FA40-AE	4000 psi	28 days	0.382	2,171 kg/m³	Yes	No
4000-40-SL-AE	NW-4000-SL40-AE	4000 psi	28 days	0.424	2,248 kg/m³	Yes	No
4000-50-SL-AE	NW-4000-SL50-AE	4000 psi	28 days	0.424	2,246 kg/m³	Yes	No
4000-50-FA/SL-AE	NW-4000-FA20SL30-AE	4000 psi	28 days	0.403	2,209 kg/m³	Yes	No
5000-00-FA/SL-AE	NW-5000-PC-AE	5000 psi	28 days	0.352	2,279 kg/m³	Yes	No
5000-20-FA-AE	NW-5000-FA20-AE	5000 psi	28 days	0.334	2,227 kg/m³	Yes	No
5000-30-FA-AE	NW-5000-FA30-AE	5000 psi	28 days	0.325	2,199 kg/m³	Yes	No
5000-30-SL-AE	NW-5000-SL30-AE	5000 psi	28 days	0.352	2,269 kg/m³	Yes	No
5000-40-FA-AE	NW-5000-FA40-AE	5000 psi	28 days	0.317	2,170 kg/m³	Yes	No
5000-40-SL-AE	NW-5000-SL40-AE	5000 psi	28 days	0.352	2,266 kg/m³	Yes	No
5000-50-SL-AE	NW-5000-SL50-AE	5000 psi	28 days	0.352	2,263 kg/m³	Yes	No
5000-50-FA/SL-AE	NW-5000-FA20SL30-AE	5000 psi	28 days	0.334	2,217 kg/m³	Yes	No

Normal-weight – non-air-entrained

EPD mix code	LCA mix ID	Strength	Cure time	w/cm	Density	Air entrained	Lightweight
2500-00-FA/SL	NW-2500-PC-NAE	2500 psi	28 days	0.698	2,335 kg/m³	No	No
2500-20-FA	NW-2500-FA20-NAE	2500 psi	28 days	0.663	2,308 kg/m³	No	No
2500-30-FA	NW-2500-FA30-NAE	2500 psi	28 days	0.645	2,294 kg/m³	No	No
2500-30-SL	NW-2500-SL30-NAE	2500 psi	28 days	0.698	2,330 kg/m³	No	No
2500-40-FA	NW-2500-FA40-NAE	2500 psi	28 days	0.628	2,278 kg/m³	No	No
2500-40-SL	NW-2500-SL40-NAE	2500 psi	28 days	0.698	2,329 kg/m³	No	No
2500-50-SL	NW-2500-SL50-NAE	2500 psi	28 days	0.698	2,327 kg/m³	No	No
2500-50-FA/SL	NW-2500-FA20SL30-NAE	2500 psi	28 days	0.663	2,303 kg/m³	No	No
3000-00-FA/SL	NW-3000-PC-NAE	3000 psi	28 days	0.631	2,340 kg/m³	No	No
3000-20-FA	NW-3000-FA20-NAE	3000 psi	28 days	0.599	2,310 kg/m³	No	No
3000-30-FA	NW-3000-FA30-NAE	3000 psi	28 days	0.583	2,294 kg/m³	No	No
3000-30-SL	NW-3000-SL30-NAE	3000 psi	28 days	0.631	2,334 kg/m³	No	No
3000-40-FA	NW-3000-FA40-NAE	3000 psi	28 days	0.568	2,277 kg/m³	No	No
3000-40-SL	NW-3000-SL40-NAE	3000 psi	28 days	0.631	2,332 kg/m³	No	No
3000-50-SL	NW-3000-SL50-NAE	3000 psi	28 days	0.631	2,330 kg/m³	No	No
3000-50-FA/SL	NW-3000-FA20SL30-NAE	3000 psi	28 days	0.599	2,304 kg/m³	No	No
4000-00-FA/SL	NW-4000-PC-NAE	4000 psi	28 days	0.516	2,350 kg/m³	No	No
4000-20-FA	NW-4000-FA20-NAE	4000 psi	28 days	0.490	2,314 kg/m³	No	No
4000-30-FA	NW-4000-FA30-NAE	4000 psi	28 days	0.477	2,294 kg/m³	No	No
4000-30-SL	NW-4000-SL30-NAE	4000 psi	28 days	0.516	2,343 kg/m³	No	No
4000-40-FA	NW-4000-FA40-NAE	4000 psi	28 days	0.464	2,273 kg/m³	No	No
4000-40-SL	NW-4000-SL40-NAE	4000 psi	28 days	0.516	2,341 kg/m³	No	No
4000-50-SL	NW-4000-SL50-NAE	4000 psi	28 days	0.516	2,339 kg/m³	No	No
4000-50-FA/SL	NW-4000-FA20SL30-NAE	4000 psi	28 days	0.490	2,306 kg/m³	No	No
5000-00-FA/SL	NW-5000-PC-NAE	5000 psi	28 days	0.426	2,327 kg/m³	No	No
5000-20-FA	NW-5000-FA20-NAE	5000 psi	28 days	0.404	2,281 kg/m³	No	No
5000-30-FA	NW-5000-FA30-NAE	5000 psi	28 days	0.394	2,256 kg/m³	No	No
5000-30-SL	NW-5000-SL30-NAE	5000 psi	28 days	0.426	2,319 kg/m³	No	No
5000-40-FA	NW-5000-FA40-NAE	5000 psi	28 days	0.383	2,230 kg/m³	No	No
5000-40-SL	NW-5000-SL40-NAE	5000 psi	28 days	0.426	2,316 kg/m³	No	No
5000-50-SL	NW-5000-SL50-NAE	5000 psi	28 days	0.426	2,313 kg/m³	No	No
5000-50-FA/SL	NW-5000-FA20SL30-NAE	5000 psi	28 days	0.404	2,272 kg/m³	No	No

High-strength – non-air-entrained

EPD mix code	LCA mix ID	Strength	Cure time	w/cm	Density	Air entrained	Lightweight
6000-00-FA/SL	HS-6000-PC-NAE	6000 psi	28 days	0.396	2,344 kg/m³	No	No

EPD mix code	LCA mix ID	Strength	Cure time	w/cm	Density	Air entrained	Lightweight
6000-20-FA	HS-6000-FA20-NAE	6000 psi	28 days	0.376	2,298 kg/m³	No	No
6000-30-FA	HS-6000-FA30-NAE	6000 psi	28 days	0.366	2,273 kg/m³	No	No
6000-30-SL	HS-6000-SL30-NAE	6000 psi	28 days	0.396	2,335 kg/m³	No	No
6000-40-FA	HS-6000-FA40-NAE	6000 psi	28 days	0.356	2,247 kg/m³	No	No
6000-40-SL	HS-6000-SL40-NAE	6000 psi	28 days	0.396	2,331 kg/m³	No	No
6000-50-SL	HS-6000-SL50-NAE	6000 psi	28 days	0.396	2,328 kg/m³	No	No
6000-50-FA/SL	HS-6000-FA20SL30-NAE	6000 psi	28 days	0.376	2,288 kg/m³	No	No
8000-00-FA/SL	HS-8000-PC-NAE	8000 psi	28 days	0.341	2,356 kg/m³	No	No
8000-20-FA	HS-8000-FA20-NAE	8000 psi	28 days	0.324	2,298 kg/m³	No	No
8000-30-FA	HS-8000-FA30-NAE	8000 psi	28 days	0.316	2,267 kg/m³	No	No
8000-30-SL	HS-8000-SL30-NAE	8000 psi	28 days	0.341	2,345 kg/m³	No	No
8000-40-FA	HS-8000-FA40-NAE	8000 psi	28 days	0.307	2,233 kg/m³	No	No
8000-40-SL	HS-8000-SL40-NAE	8000 psi	28 days	0.341	2,342 kg/m³	No	No
8000-50-SL	HS-8000-SL50-NAE	8000 psi	28 days	0.341	2,338 kg/m³	No	No
8000-50-FA/SL	HS-8000-FA20SL30-NAE	8000 psi	28 days	0.324	2,287 kg/m³	No	No
10000-00-FA/SL	HS-10000-PC-NAE	10000 psi	28 days	0.266	2,382 kg/m³	No	No
10000-20-FA	HS-10000-FA20-NAE	10000 psi	28 days	0.252	2,307 kg/m³	No	No
10000-30-FA	HS-10000-FA30-NAE	10000 psi	28 days	0.246	2,267 kg/m³	No	No
10000-30-SL	HS-10000-SL30-NAE	10000 psi	28 days	0.266	2,368 kg/m³	No	No
10000-40-FA	HS-10000-FA40-NAE	10000 psi	28 days	0.239	2,224 kg/m³	No	No
10000-40-SL	HS-10000-SL40-NAE	10000 psi	28 days	0.266	2,363 kg/m³	No	No
10000-50-SL	HS-10000-SL50-NAE	10000 psi	28 days	0.266	2,358 kg/m³	No	No
10000-50-FA/SL	HS-10000-FA20SL30-NAE	10000 psi	28 days	0.252	2,292 kg/m³	No	No
12000-00-FA/SL	HS-12000-PC-NAE	12000 psi	28 days	0.232	2,398 kg/m³	No	No
12000-20-FA	HS-12000-FA20-NAE	12000 psi	28 days	0.221	2,313 kg/m³	No	No
12000-30-FA	HS-12000-FA30-NAE	12000 psi	28 days	0.215	2,267 kg/m³	No	No
12000-30-SL	HS-12000-SL30-NAE	12000 psi	28 days	0.232	2,382 kg/m³	No	No
12000-40-FA	HS-12000-FA40-NAE	12000 psi	28 days	0.209	2,218 kg/m³	No	No
12000-40-SL	HS-12000-SL40-NAE	12000 psi	28 days	0.232	2,377 kg/m³	No	No
12000-50-SL	HS-12000-SL50-NAE	12000 psi	28 days	0.232	2,372 kg/m³	No	No
12000-50-FA/SL	HS-12000-FA20SL30-NAE	12000 psi	28 days	0.221	2,296 kg/m³	No	No

Structural lightweight – air-entrained

EPD mix code	LCA mix ID	Strength	Cure time	w/cm	Density	Air entrained	Lightweight
LW-3000-00-FA/SL-AE	LW-3000-PC-AE	3000 psi	28 days	0.537	1,881 kg/m³	Yes	Yes
LW-3000-20-FA-AE	LW-3000-FA20-AE	3000 psi	28 days	0.511	1,892 kg/m³	Yes	Yes
LW-3000-30-FA-AE	LW-3000-FA30-AE	3000 psi	28 days	0.497	1,897 kg/m³	Yes	Yes
LW-3000-30-SL-AE	LW-3000-SL30-AE	3000 psi	28 days	0.537	1,893 kg/m³	Yes	Yes
LW-3000-40-FA-AE	LW-3000-FA40-AE	3000 psi	28 days	0.484	1,895 kg/m³	Yes	Yes
LW-3000-40-SL-AE	LW-3000-SL40-AE	3000 psi	28 days	0.537	1,890 kg/m³	Yes	Yes
LW-3000-50-SL-AE	LW-3000-SL50-AE	3000 psi	28 days	0.537	1,888 kg/m³	Yes	Yes
LW-3000-50-FA/SL-AE	LW-3000-FA20SL30-AE	3000 psi	28 days	0.511	1,892 kg/m³	Yes	Yes
LW-4000-00-FA/SL-AE	LW-4000-PC-AE	4000 psi	28 days	0.424	1,889 kg/m³	Yes	Yes
LW-4000-20-FA-AE	LW-4000-FA20-AE	4000 psi	28 days	0.403	1,886 kg/m³	Yes	Yes
LW-4000-30-FA-AE	LW-4000-FA30-AE	4000 psi	28 days	0.393	1,890 kg/m³	Yes	Yes
LW-4000-30-SL-AE	LW-4000-SL30-AE	4000 psi	28 days	0.424	1,888 kg/m³	Yes	Yes
LW-4000-40-FA-AE	LW-4000-FA40-AE	4000 psi	28 days	0.382	1,886 kg/m³	Yes	Yes
LW-4000-40-SL-AE	LW-4000-SL40-AE	4000 psi	28 days	0.424	1,885 kg/m³	Yes	Yes
LW-4000-50-SL-AE	LW-4000-SL50-AE	4000 psi	28 days	0.424	1,889 kg/m³	Yes	Yes
LW-4000-50-FA/SL-AE	LW-4000-FA20SL30-AE	4000 psi	28 days	0.403	1,884 kg/m³	Yes	Yes
LW-5000-00-FA/SL-AE	LW-5000-PC-AE	5000 psi	28 days	0.352	1,885 kg/m³	Yes	Yes
LW-5000-20-FA-AE	LW-5000-FA20-AE	5000 psi	28 days	0.334	1,886 kg/m³	Yes	Yes
LW-5000-30-FA-AE	LW-5000-FA30-AE	5000 psi	28 days	0.325	1,894 kg/m³	Yes	Yes
LW-5000-30-SL-AE	LW-5000-SL30-AE	5000 psi	28 days	0.352	1,893 kg/m³	Yes	Yes
LW-5000-40-FA-AE	LW-5000-FA40-AE	5000 psi	28 days	0.317	1,889 kg/m³	Yes	Yes
LW-5000-40-SL-AE	LW-5000-SL40-AE	5000 psi	28 days	0.352	1,890 kg/m³	Yes	Yes
LW-5000-50-SL-AE	LW-5000-SL50-AE	5000 psi	28 days	0.352	1,897 kg/m³	Yes	Yes
LW-5000-50-FA/SL-AE	LW-5000-FA20SL30-AE	5000 psi	28 days	0.334	1,890 kg/m³	Yes	Yes

How to use the product IDs: select the applicable density/class and 28-day specified compressive strength, then select the cementitious-material configuration. AE identifies air-entrained products; absence of AE identifies non-air-entrained products; LW identifies lightweight products.

CONTENT DECLARATION

The content declaration represents NRMCA Member Industry-Average Ready Mixed Concrete - Version 4. The declared unit is 1 m³ of fresh concrete. Major constituent mass ranges are reported below by product family; exact mix-specific quantities are reported in Appendix C of the Version 4 LCA.

Product content	Declaration for the sector EPD
Cementitious materials	Portland cement and portland-limestone cement with fly ash and/or slag cement according to the declared SCM configuration. The modeled SCM configurations range from 0% SCM to 50% total SCM by cementitious-material mass.
Aggregates	Fine aggregate and normal-weight coarse aggregate for normal-weight/high-strength products; manufactured lightweight coarse aggregate is used for structural lightweight products.
Water	Batch/process water is included in every mix.
Chemical admixtures	Air-entraining admixture, water reducer, high-range water reducer, and/or accelerator are included as applicable to the mix design.
Packaging materials	None. Ready mixed concrete is delivered in bulk and is not sold in consumer packaging.
Biogenic material	Not applicable. No biogenic material is present in the declared concrete product.
Recycled/recovered material	Fly ash and raw slag used to produce slag cement are recovered materials. Recovered cementitious-material content is reported separately from the ISO 21930 resource-use indicator output. A post-consumer recycled-content percentage for the finished concrete is not declared.
Hazardous substances / SVHC	No substance on the ECHA Candidate List of Substances of Very High Concern is present above 0.1% by mass in the declared product, based on the constituent information confirmed for this revision.

No substance on the ECHA Candidate List of Substances of Very High Concern is present above 0.1% by mass in the declared products, based on the constituent information confirmed for this revision.

Product Composition

The content declaration is provided on the basis of the declared unit of 1 m³ of fresh concrete. No biogenic material is present in the declared concrete products; therefore biogenic carbon content is 0 kg C per declared unit. Fly ash and slag cement are treated as a recovered material in the LCA. No post-consumer recycled-content claim is made for these materials or for the finished concrete.

Product family	Fresh density (kg/m ³)	Major constituent ranges (kg/m ³)	Recovered material share of fresh mass	Post-consumer recycled content	Biogenic carbon
Normal-weight	2170-2350	Coarse agg. 913-995; fine agg. 591-936; total cement 119-455; fly ash 0-202; slag cement 0-228; batch water 155-174	0-9.3%	0% claimed*	0 kg C
High-strength	2218-2398	Coarse agg. 1047-1089; fine agg. 117-669; total cement 221-753; fly ash 0-335; slag cement 0-377; batch water 175-175	0-15.1%	0% claimed*	0 kg C
Lightweight	1754-2083	Coarse agg. 404-605; fine agg. 653-964; total cement 160-463; fly ash 0-206; slag cement 0-232; batch water 163-172	0-9.9%	0% claimed*	0 kg C

* "0% claimed" means that no constituent is being represented as post-consumer recycled content in this EPD.

On a mass basis, ready-mixed concrete is composed of coarse aggregate, followed by fine aggregate, cementitious materials, and mixing water. Chemical admixtures and other minor constituents represent the smallest proportion of the total concrete mass. The specific proportions vary by mix design, strength class, and regional material availability.

The national benchmark mix designs are based on accepted ACI mixture-proportioning practices. ACI 211.1 provides the conventional mixture-proportioning basis for normal-weight mixes through 5,000 psi, ACI 211.2 provides the basis for structural lightweight mixtures, and ACI 211.4 provides the high-strength mixture-proportioning basis for the 8,000, 10,000, and 12,000 psi mixes.

For the 6,000 psi strength class, ACI 211.1 and ACI 211.4 were both reviewed. The two methods produced conflicting estimates at this transition strength. Empirical industry mix-design data for 6,000 psi concrete were therefore reviewed and utilized to establish the representative 6,000 psi benchmark mixture.

The water-to-cementitious-materials ratio (w/cm) is selected as a function of specified compressive strength using the applicable ACI strength-to-w/cm relationship, with lower w/cm generally corresponding to higher specified strength.

For cement-equivalent strength calculations, fly ash is treated at 75% reactivity relative to portland cement, while slag cement is treated at 100% reactivity. This reactivity treatment is used when establishing the cementitious-material requirement for mixes containing SCMs.

Mixture proportions are adjusted to maintain the target concrete volume as paste and cementitious content change. Aggregate quantities are correspondingly adjusted so that the final mixture represents one cubic yard of fresh concrete.

Product Standards and PCR Applicability

Products covered by this EPD are ready mixed concrete for residential, commercial, institutional, and public-works applications in the United States. The study is structured to conform to ISO 14025:2026, ISO 14040:2006/Amd 1:2020, ISO 14044:2006/Amd 1:2017/Amd 2:2020, ISO 21930:2017, and NSF 1112-26, Product Category Rule for Environmental Product Declarations - Concrete, Version 3.0.

- ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
- ACI 211.2 - Standard Practice for Selecting Proportions for Structural Lightweight Concrete.
- ACI 211.4 - Guide for Selecting Proportions for High-Strength Concrete Using Portland Cement and Other Cementitious Materials.
- ACI 318 - Building Code Requirements for Structural Concrete.
- ASTM C94/C94M - Standard Specification for Ready Mixed Concrete.
- CSA A23.1/A23.2 - Concrete materials and methods of concrete construction / test methods and standard practices for concrete.

CSA A23.1/A23.2 is listed because it is within the applicability provisions of NSF 1112-26; the declared geographic market of this EPD is the United States.

- CSI MasterFormat 03 30 00 - Cast-in-Place Concrete.
- UNSPSC 30111500 - Ready Mix Concrete.

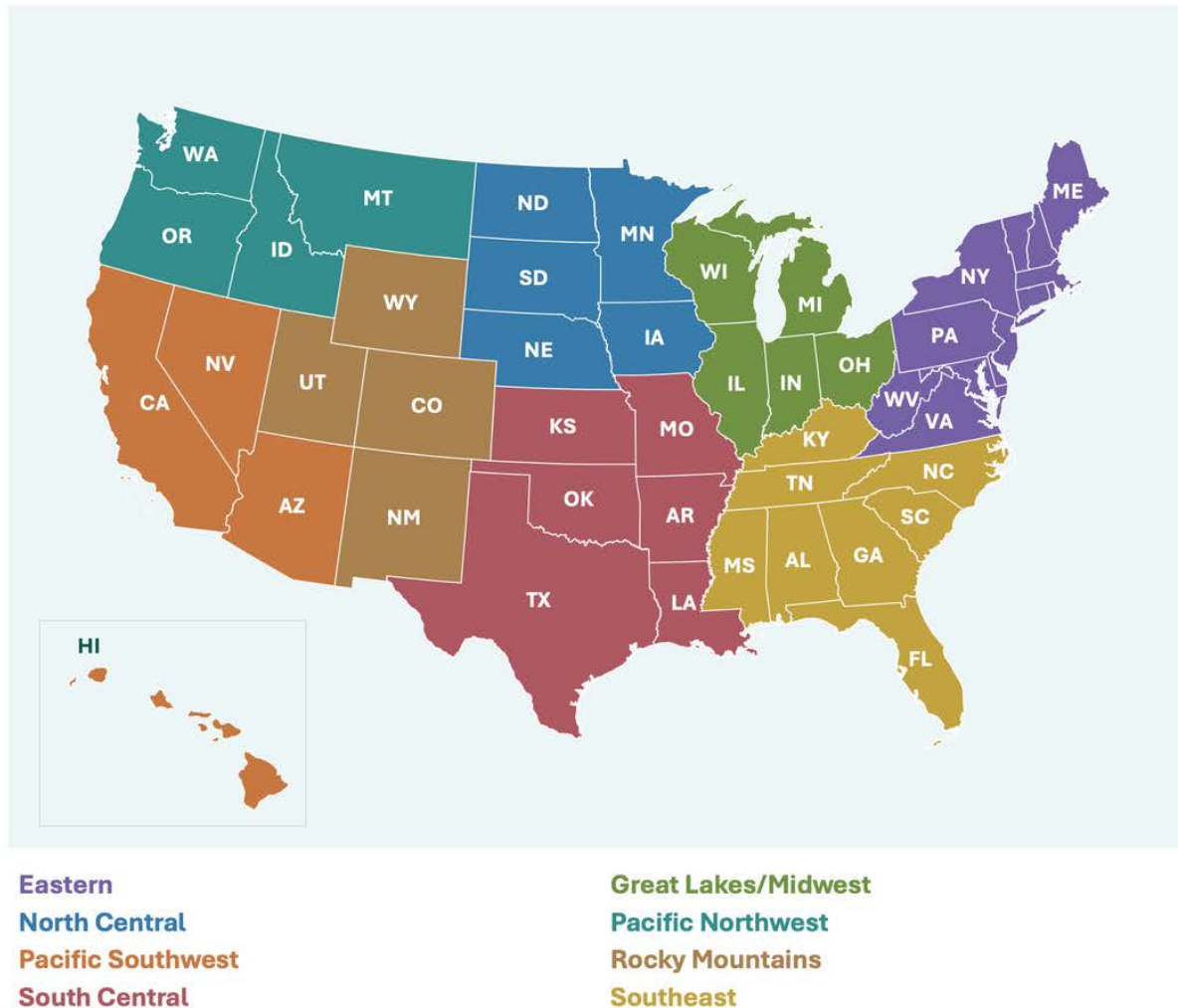
NSF 1112-26 applies to concrete manufactured in permanent or mobile batching plants, including volumetric mixing, and delivered in ready-to-use form. It is not applicable to precast concrete or concrete masonry products.

LCA INFORMATION

Time representativeness: Each participating facility reported 12 consecutive months of primary data falling within CY2023-CY2024. No participating facility is identified as an exception. Background-data years and versions are identified in the secondary-data schedule.

Geographical scope: Geographical scope for Modules A1-A3 is the United States for the foreground ready mixed concrete production system, with the background geography documented in the supporting LCA. The 120 named mix designs are separately declared products; product-to-product differences are therefore reported directly rather than averaged into a single product result. Site variation was evaluated for every declared product using the 1,238 participating facility records.

NRMCA Geographic Scope and Production Regions



Declared Unit

The declared unit is 1 cubic meter (m³) of fresh concrete. The corresponding product mass is mix-specific and equals the listed fresh density. Across the 120 declared products, 1 m³ corresponds to 1,881-2,398 kg of fresh concrete. In accordance with NSF 1112-26, multiply a result per m³ by 0.7645549 to convert it to one U.S. cubic yard. No functional unit or reference service life is assigned because the study excludes the use stage.

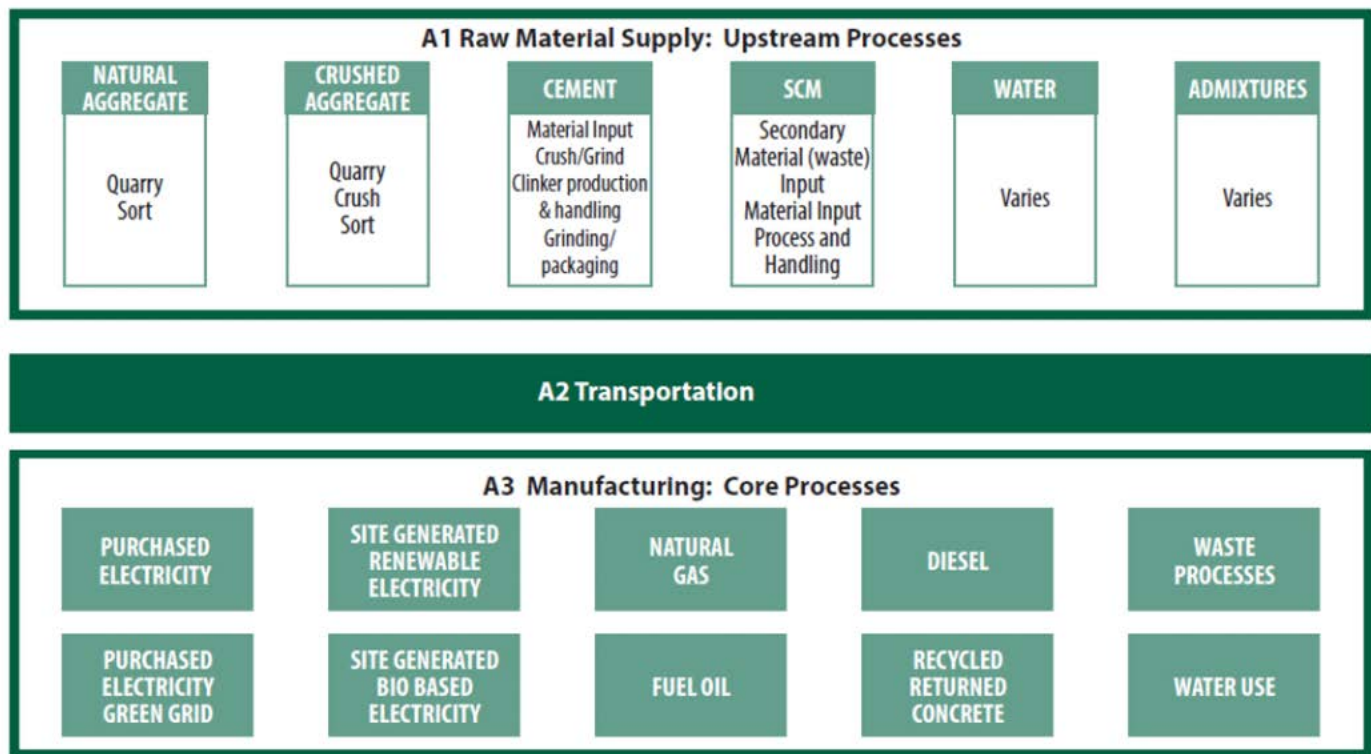
System Boundary

The scope is cradle-to-gate and includes Modules A1-A3. Module A4 may be reported separately under NSF 1112-26 but is not included in the baseline V4 national results in this EPD. Modules A5, B1-B7, C1-C4, and D are not reported.

Life cycle stage schematic – alpha-numeric designations as per NSF PCR

Production			Construction		Use							End of Life				Benefits & Loads Beyond System Boundary
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw Material Supply	Transport	Manufacturing	Transport to Site	Assembly/Install	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	Deconstruction	Transport	Waste Processing	Disposal	Reuse, Recovery, Recycling Potential
X	X	X	mnd	mnd	mnd	mnd	mnd	mnd	mnd	mnd	mnd	mnd	mnd	mnd	mnd	mnd

Cradle-to-gate product system for concrete



Data Sources, Data Quality, and Allocation

Primary Data

Primary facility data used for Version 4 were collected through structured NRMCA survey instruments requesting one complete 12-month calendar-year dataset for either CY2023 or CY2024. The national dataset includes 1,238 participating facilities. Facility A3 flows are normalized to concrete production and national A3 means are production-volume weighted. For A2, material- and mode-specific production weighted mean transportation distances are calculated from eligible primary responses within the applicable geography; missing records are excluded, while confirmed zero modal distances are retained as structural zeros. These geography-level A2 means are applied to the benchmark products, so no facility-specific A2 distance is imputed for a nonresponding facility. Sampling uncertainty associated with the applicable A2 mean distances is propagated into the product-level statistical uncertainty. Truck transportation impacts are adjusted for backhauls in accordance with NSF 1112-26 by multiplying impacts from the dataset by the factor 2/1.35. The foreground data cover concrete production, electricity and fuels, water, wash-water reuse, ancillary materials, wastes, selected emissions, and mixing-fleet energy.

Secondary Data Sources

Secondary data were used to model background processes where primary data were not available or applicable. The table below summarizes the principal secondary data sources used in the study, including the relevant databases, datasets, and references supporting the life cycle inventory.

Input / process	Specific V4 source / dataset	Data year / version	Geography
Portland cement and portland-limestone cement	American Cement Association industry-average EPDs*	2023	North America / U.S.
Slag cement	Slag Cement Association industry-average EPD	2021	North America / U.S.
Fly ash	No incoming production or preparation burden; participant-reported A2 transportation included	V4 PCR treatment	U.S.
Construction aggregates	NSSGA LCA Data for Construction Aggregates - exploded/washed or non-exploded/washed aggregate	2025	U.S.
Lightweight aggregate	ecoinvent 3.10 expanded clay production	ecoinvent 3.10	Appropriate geography
Concrete admixtures	European Federation of Concrete Admixture Associations industry EPDs	2021	Europe / proxy
Batch / process water	ecoinvent 3.10 Tap water {RoW} market for Cut-off	ecoinvent 3.10	RoW / generic proxy; no grid adjustment applied
Electricity - United States	Federal LCA Commons / USLCI DOE/NETL balancing-authority electricity datasets	2022	U.S. regional
Truck transport	USLCI combination truck, short-haul or long-haul, diesel powered, tkm/RNA	2010	U.S.
Rail transport	USLCI train, diesel powered, tkm/US	2012	U.S.
Ocean transport	USLCI ocean freighter, average fuel mix, tkm/US	2023	U.S. / global route
Barge transport	USLCI barge, average fuel mix	2007	U.S.
Natural gas - plant / fleet	Federal LCA Commons / USLCI natural-gas production and combustion datasets used in the controlled V4 source schedule	Created 2015; updated 2024	U.S.
Diesel	Federal LCA Commons / USLCI diesel production and combustion datasets used in the controlled V4 source schedule	Created 2015; updated 2023	U.S.
Residual fuel oil	Federal LCA Commons / USLCI residual-fuel-oil production and combustion datasets	Created 2013; updated 2024	U.S.
Gasoline	Federal LCA Commons / USLCI gasoline production and combustion datasets	Created 2015; updated 2023	U.S.
Liquefied petroleum gas (LPG)	Federal LCA Commons / USLCI LPG production and combustion dataset	2014	U.S.
Hazardous solid waste	ecoinvent 3.10: Hazardous waste, for incineration {RoW} treatment of hazardous waste, hazardous waste incineration Alloc, Rec, U	ecoinvent 3.10	RoW
Non-hazardous solid waste	ecoinvent 3.10: Inert waste {RoW} treatment of, sanitary landfill Alloc Rec, U	ecoinvent 3.10	RoW
Road-dust-control chemicals	ecoinvent 3.10: Chemicals inorganic, at plant/GLO	ecoinvent 3.10	global
Oil and lubricants	Diesel, at refinery//US/ USLCI 2014	2014	U.S.
Grease	Diesel, at refinery//US/ USLCI 2014	2014	U.S.

* This EPD was calculated using industry average cement data. Cement LCA impacts can vary significantly depending upon manufacturing process, efficiency and fuel.

Cut-off and Allocation

The inclusion and exclusion of inputs and outputs follow ISO 21930:2017 and NSF 1112-26. Excluded processes include construction of capital goods and infrastructure; manufacture of production equipment, delivery vehicles, earthmoving and laboratory equipment; personnel-related commuting/travel/furniture/office supplies; company management and sales energy/water not associated with concrete production; and concrete placement/curing water at the construction site. The V4 model applies the PCR allocation of 30% of transit-mix fleet energy to A3, with the balance reserved for A4 when reported. The model applies the measured 1.724% material loss rate as a correction to the modeled material quantities so that the reported product output and associated upstream material requirements are treated consistently.

Data Quality Assessment

The qualitative DQA below assesses the full data source schedule used in the model. Ratings consider temporal, geographic and technological representativeness together with completeness, precision/uncertainty and reliability.

Dataset / source	Temporal	Geographic	Technological	Completeness / precision / reliability
ACA portland cement / PLC industry-average EPDs (2023)	Very good	Very good - U.S./North America	Very good	Very good. Current verified industry EPD source; dominant A1 input for many mixes.
Slag Cement Association industry-average EPD (2021)	Good	Very good - North America	Very good	Very good. Verified industry EPD; age is disclosed.
Fly ash recovered-material treatment + A2 transport	N/A for incoming burden	Very good - U.S. transport	Very good	Good. PCR treatment assigns no incoming production/preparation burden; transport is modeled.
NSSGA construction aggregate LCA data (2025)	Excellent	Very good - U.S.	Very good	Very good. Current U.S. industry LCA data mapped by aggregate type.
Manufactured lightweight aggregate - ecoinvent 3.10 expanded clay	Good	Moderate - proxy	Good	Moderate/Good. Conservative generic data.
Concrete admixtures - EFCA EPDs (2021)	Good	Moderate - European proxy	Good	Moderate/Good. Industry EPD proxy used where North American product-specific data are unavailable.
Batch/process water - ecoinvent 3.10	Good	Good	Good	Good. Generic water background.
U.S. electricity - DOE/NETL balancing-authority data (2022)	Very good	Excellent - regional U.S.	Very good	Very good. Government LCI; balancing-authority regionalization used.
USLCI freight: truck 2010; rail 2012; ocean 2023; barge 2007	Moderate	Very good - U.S./applicable route	Good	Good. Mode-specific public LCI; older vintages are transparent and retained in the controlled source schedule.
USLCI fuels: natural gas/residual fuel/diesel/gasoline/LPG	Good	Very good - U.S.	Good	Good. Public LCI with process-specific vintages and recent updates documented in the source schedule.

DQA rating convention: Excellent = directly current and representative; Very good = closely representative with no material known limitation; Good = fit for purpose with disclosed age/genericity; Moderate = known proxy or representativeness limitation. The proxy and background-coverage limitations identified above are also disclosed in the EPD known-data-gaps statement.

No environmental attribute certificates (EACs/RECs), Green-e claims, book-and-claim instruments, or other market-based electricity claims are applied in this EPD. The declared electricity results are location-based using the regional background datasets documented in the V4 LCA. No separate “Purchased Electricity from Green Grid” or site-generated renewable-electricity claim is used in the reported EPD results. Land-use-related impacts (for example, biodiversity/soil fertility) and toxicological aspects are not declared as separate indicators in this EPD.

Interpretation and limitations

This EPD reports national industry-average cradle-to-gate results NRMCA Member Industry-Average Ready Mixed Concrete - Version 4. The results do not represent the full life cycle of concrete in a building or civil works and do not quantify benefits or burdens associated with structural design, service life, thermal mass, durability, carbonation during use, maintenance, demolition, recycling, or disposal.

Industry-average results may not represent a specific plant or product. An EPD does not indicate that a product is environmentally superior or inferior to another product. Comparisons are limited unless products have equivalent functions, declared units, system boundaries, data quality, background datasets, allocation procedures, and LCIA methods.

HLRW and ILLRW are reported as a dash ("-") because consistent radioactive-waste inventory coverage is not available across the applicable background LCI sources. NRSF values from the applicable source EPDs are reported in the product result tables. GWPL is zero or nearly zero for modeled flows where the applicable source provides the indicator; a dash ("-") is used only where the upstream source does not support a separate GWPL value. Proxy use for admixtures and manufactured lightweight aggregate is identified in the data-source and DQA tables.

LCA results are relative expressions of potential impacts and do not predict impacts on category endpoints, threshold exceedances, safety margins, or risks. EPD comparability requires equivalent PCRs, declared or functional units, system boundaries, scenarios, data quality, and LCIA methods.

ENVIRONMENTAL PERFORMANCE

Mandatory impact category indicators according to EN 15804: Not applicable to this EPD. The governing NSF 1112-26 Concrete PCR is an external PCR accepted by the International EPD System for regulatory use; it complies with ISO 21930:2017 and is not EN 15804 compliant. The environmental performance results below therefore follow the indicator set and characterization required by NSF 1112-26.

Indicator	Description	Unit	Method / version
GWPT	Global warming potential - total	kg CO2 eq	IPCC AR5, 100-year
GWPF	Global warming potential - fossil	kg CO2 eq	IPCC AR5, 100-year
GWPB	Global warming potential - biogenic	kg CO2 eq	IPCC AR5, 100-year
GWPL*	Global warming potential - land use and land-use change	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	TRACI 2.2
AP	Acidification potential	kg SO2 eq	TRACI 2.2
EPM	Eutrophication potential - marine	kg N eq	TRACI 2.2
EPF	Eutrophication potential - freshwater	kg P eq	TRACI 2.2
SFP	Smog formation potential	kg O3 eq	TRACI 2.2
ADP _f	Abiotic depletion potential - fossil resources	MJ	CML-IA baseline / CML 3.1
ADP _e *	Abiotic depletion potential - elements	kg Sb eq	CML-IA baseline / CML 3.1; NSF 1112-26 Annex A Table 10 factors for applicable mineral flows
RPRE*	Renewable primary energy used as an energy carrier	MJ	LCI / ISO 21930
RPRM*	Renewable primary resources used as material	MJ	LCI / ISO 21930
NRPRE*	Non-renewable primary energy used as an energy carrier	MJ	LCI / ISO 21930
NRPRM*	Non-renewable primary resources used as material	MJ	LCI / ISO 21930
SM*	Secondary materials	kg	LCI / ISO 21930
RSF*	Renewable secondary fuels	MJ	LCI / ISO 21930
NRSF*	Non-renewable secondary fuels	MJ	LCI / ISO 21930
RE	Recovered energy	MJ	LCI / ISO 21930
FW	Net use of fresh water	m3	LCI / ISO 21930
CCE	Calcination carbon emissions	kg CO2 eq	PCR transparency flow
HWD*	Hazardous waste disposed	kg	LCI / ISO 21930
NHWD*	Non-hazardous waste disposed	kg	LCI / ISO 21930
HLRW*	High-level radioactive waste disposed	-	-
ILLRW*	Intermediate and low-level radioactive waste disposed	-	-
CRU*	Components for reuse	kg	LCI / ISO 21930
MFR*	Materials for recycling	kg	LCI / ISO 21930
MER*	Materials for energy recovery	kg	LCI / ISO 21930
EE	Exported energy	MJ	LCI / ISO 21930
EPT	Eutrophication potential - total (supplemental)	kg N eq	TRACI 2.1 (supplemental)

**Disclaimer: The results of this environmental impact indicator (where reported) shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.*

The following tables report the Version 4 national-average A1-A3 accumulated results for all 120 declared products. Results are presented per 1 m3 of fresh concrete. Separate A1 (raw material supply), A2 (transportation), and A3 (manufacturing) module results for the same products are presented immediately after each A1-A3 total table. The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

This EPD does not apply a "net GWP" adjustment. Fossil carbon emissions associated with combustion of recycled or recovered materials and fuels are retained in the applicable fossil GWP contribution and therefore in total GWP; they are not subtracted from GWPT on the basis of recycled or recovered status.

A1-A3 module contribution summary

Across the 120 national declared products, the GWPT module-contribution ranges below summarize the product range without listing every individual product. A1 is the dominant contribution for all products, followed by A2 and then A3.

Module	GWPT range (kg CO ₂ e/m ³)	Contribution range	Summary
Total A1-A3	168.14–745.16	100%	Product range
A1	131.12–696.64	78.0%–93.5%	Raw material supply
A2	22.47–49.20	5.0%–15.5%	Inbound transportation
A3	10.91	1.5%–6.5%	Manufacturing

Selected GWPT contribution breakdown by material and input

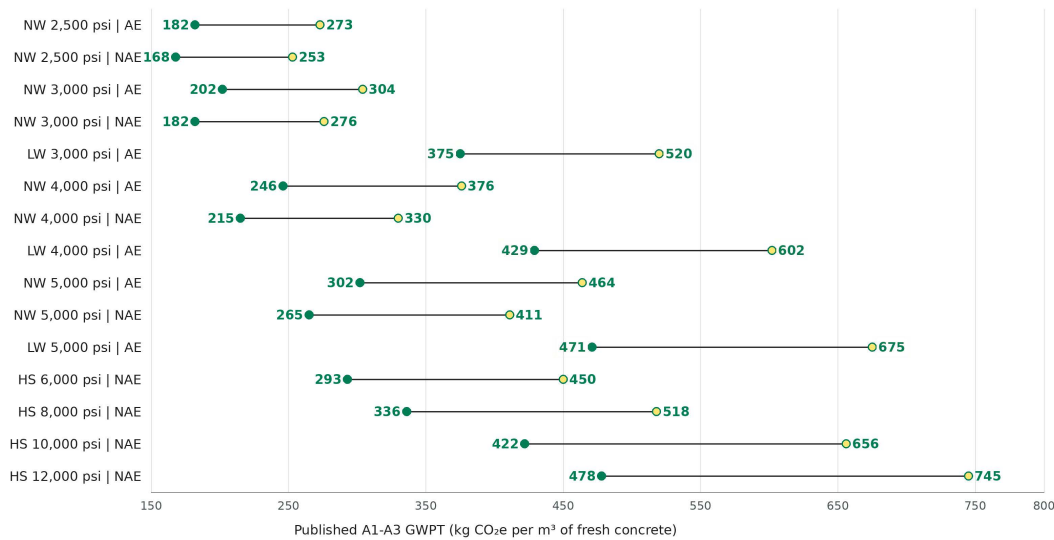
The tables below provide the requested input-level contribution analysis. A1 and A2 values are ranges across the 120 national products; A3 uses the national manufacturing inventory and therefore is a common per-m³ contribution for the national products. Percentages for A1 and A2 are shares of the applicable module; A3 percentages are shares of national A3 GWPT.

A1 material/input	GWPT contribution range (kg CO ₂ e/m ³)	Share of A1 range
Portland cement (PC + PLC)	105.35–665.74	37.8%–96.8%
Slag cement	0.00–56.32	0.0%–13.7%
Fly ash	0.00	0.0%
Aggregates (normal/crushed)	3.01–7.76	0.6%–5.8%
Manufactured lightweight aggregate	0.00–220.08	0.0%–55.9%
Batch water	0.11–0.12	0.0%–0.1%
Admixtures	1.39–27.71	0.4%–6.3%
A2 transported input	GWPT contribution range (kg CO ₂ e/m ³)	Share of A2 range
SCM transport	0.00–24.83	0.0%–50.6%
Cement transport	4.15–26.22	13.5%–69.6%
Admixture transport	0.04–0.73	0.1%–1.8%
Aggregate transport	4.80–14.19	10.8%–63.0%
Manufactured lightweight aggregate transport	0.00–22.09	0.0%–53.5%
A3 manufacturing input	GWPT contribution (kg CO ₂ e/m ³)	Share of A3 range
Transit-mix diesel - fleet	4.00	36.8%
Purchased electricity	2.34	21.6%
Diesel - plant	1.69	15.5%
Natural gas - plant	1.54	14.2%
Hazardous solid waste	0.40	3.7%
Fuel oil - plant	0.27	2.5%
LPG - plant	0.22	2.0%
Net process water	0.15	1.4%
Road dust chemicals	0.08	0.8%
Non-hazardous solid waste	0.07	0.6%
Other A3 inputs	0.11	1.0%
A3 total	10.87	100%

For the national A3 inventory, the largest GWPT contributors are transit-mix fleet diesel, purchased electricity, plant diesel, and plant natural gas. In A1, Portland cement is the dominant contributor for normal-weight products, while manufactured lightweight aggregate can become a major A1 contributor for lightweight products. A2 contributions vary with both material mass and the applicable transport-mode distances.

A1-A3 Total GWP range by strength class and category

Each row shows the minimum and maximum published global warming potential (total) across the declared SCM configurations within that strength/class category. Lightweight categories are shown separately and are not combined with normal-weight categories.



The Section 5.3 variation assessment covers GWPT, ODP, AP, EPM, EPF, SFP, ADPf and ADPe. EPT is excluded from this variation disclosure because it is the supplemental TRACI 2.1 eutrophication indicator; EPM and EPF are the declared TRACI 2.2 eutrophication indicators. Population minima and maxima per cubic meter are disclosed below in accordance with NSF 1112-26 Section 5.3.

Product range	Ind.	Indicator	Product mean min	Product mean max	Site min	Site max	Min dev.	Max dev.
High-Strength 6,000–12,000 psi	GWPT	kg CO ₂ e	292.53	745.16	246.53	794.28	-15.73%	20.59%
High-Strength 6,000–12,000 psi	ODP	kg CFC11e	6.581E-06	1.751E-05	6.358E-06	1.785E-05	-3.39%	5.18%
High-Strength 6,000–12,000 psi	AP	kg SO ₂ e	1.149	2.306	0.585	2.771	-49.13%	55.18%
High-Strength 6,000–12,000 psi	EPM	kg N eq	0.162	0.264	0.039	0.400	-78.07%	98.18%
High-Strength 6,000–12,000 psi	EPF	kg P eq	0.036	0.091	0.035	0.091	-1.15%	1.41%
High-Strength 6,000–12,000 psi	SFP	kg O ₃ e	25.78	49.13	10.80	61.29	-58.11%	61.96%
High-Strength 6,000–12,000 psi	ADPf	MJ	2009.08	4535.90	1380.96	5254.06	-31.26%	42.40%
High-Strength 6,000–12,000 psi	ADPe	kg Sb eq	1.805E-04	3.729E-04	1.790E-04	3.758E-04	-0.87%	1.60%
Lightweight 3,000–5,000 psi — Air-Entrained	GWPT	kg CO ₂ e	375.33	674.76	320.97	728.04	-14.48%	29.53%
Lightweight 3,000–5,000 psi — Air-Entrained	ODP	kg CFC11e	5.290E-06	1.150E-05	5.066E-06	1.184E-05	-4.23%	6.47%
Lightweight 3,000–5,000 psi — Air-Entrained	AP	kg SO ₂ e	1.901	2.919	1.287	4.888	-33.85%	91.56%
Lightweight 3,000–5,000 psi — Air-Entrained	EPM	kg N eq	0.178	0.233	0.026	0.734	-86.02%	237.13%
Lightweight 3,000–5,000 psi — Air-Entrained	EPF	kg P eq	0.088	0.147	0.087	0.147	-0.48%	0.64%
Lightweight 3,000–5,000 psi — Air-Entrained	SFP	kg O ₃ e	29.68	45.70	13.58	103.81	-55.70%	173.34%
Lightweight 3,000–5,000 psi — Air-Entrained	ADPf	MJ	2877.31	4667.83	2137.40	5849.01	-26.26%	56.11%
Lightweight 3,000–5,000 psi — Air-Entrained	ADPe	kg Sb eq	3.181E-04	5.276E-04	3.165E-04	5.305E-04	-0.50%	0.93%
Normal-Weight 2,500–5,000 psi — Air-Entrained	GWPT	kg CO ₂ e	182.05	464.16	144.83	511.32	-20.44%	32.48%
Normal-Weight 2,500–5,000 psi — Air-Entrained	ODP	kg CFC11e	3.929E-06	1.072E-05	3.706E-06	1.106E-05	-5.68%	8.67%
Normal-Weight 2,500–5,000 psi — Air-Entrained	AP	kg SO ₂ e	0.778	1.506	0.361	2.095	-53.64%	87.51%
Normal-Weight 2,500–5,000 psi — Air-Entrained	EPM	kg N eq	0.115	0.180	0.023	0.339	-81.46%	140.84%
Normal-Weight 2,500–5,000 psi — Air-Entrained	EPF	kg P eq	0.022	0.056	0.021	0.057	-1.83%	2.31%
Normal-Weight 2,500–5,000 psi — Air-Entrained	SFP	kg O ₃ e	17.80	32.49	7.01	47.99	-60.64%	91.13%
Normal-Weight 2,500–5,000 psi — Air-Entrained	ADPf	MJ	1348.49	2937.80	832.40	3666.40	-38.27%	61.30%
Normal-Weight 2,500–5,000 psi — Air-Entrained	ADPe	kg Sb eq	9.878E-05	2.265E-04	9.721E-05	2.294E-04	-1.59%	2.91%
Normal-Weight 2,500–5,000 psi — Non-Air-Entrained	GWPT	kg CO ₂ e	168.14	410.67	131.14	458.86	-22.00%	36.16%
Normal-Weight 2,500–5,000 psi — Non-Air-Entrained	ODP	kg CFC11e	3.704E-06	9.636E-06	3.481E-06	9.977E-06	-6.02%	9.20%
Normal-Weight 2,500–5,000 psi — Non-Air-Entrained	AP	kg SO ₂ e	0.742	1.359	0.330	1.983	-55.46%	94.53%
Normal-Weight 2,500–5,000 psi — Non-Air-Entrained	EPM	kg N eq	0.110	0.161	0.018	0.324	-84.64%	147.29%
Normal-Weight 2,500–5,000 psi — Non-Air-Entrained	EPF	kg P eq	0.021	0.051	0.020	0.051	-1.92%	2.42%
Normal-Weight 2,500–5,000 psi — Non-Air-Entrained	SFP	kg O ₃ e	17.37	29.91	6.76	46.05	-61.08%	102.05%
Normal-Weight 2,500–5,000 psi — Non-Air-Entrained	ADPf	MJ	1193.36	2491.56	679.30	3214.25	-43.08%	69.64%
Normal-Weight 2,500–5,000 psi — Non-Air-Entrained	ADPe	kg Sb eq	4.052E-05	1.165E-04	3.895E-05	1.194E-04	-3.87%	7.10%

Many inventory indicators are direct model-output flows rather than LCIA indicators. A value of 0 is used only where the project-model response confirms that no modeled flow is present; N/A means the flow is not applicable to the declared system. Secondary material (SM) is reported on a product-specific basis for recovered-material inputs, including fly ash and raw slag. Processing burdens for slag cement remain included through the Slag Cement Association EPD dataset.

Resource-use/output-flow values that are common to all 120 declared products are reported once below rather than repeated. Product-specific SM is reported in each product result table. Zero indicates a flow confirmed absent in the current Theta 1.2 output; N/A indicates a transparency flow that is not applicable to the declared A1-A3 system.

Indicator / flow	A1	A2	A3
RPRM	0	0	0
NRPRM	0	0	0
RSF	0	0	0
RE	-	-	-
CRU	-	-	-
MFR	-	-	-
MER	0	0	0
EE	0	0	0
Biogenic carbon in product	N/A	N/A	N/A
Biogenic carbon in packaging	N/A	N/A	N/A
CO ₂ from renewable waste fuels	-	-	-
CO ₂ from non-renewable waste fuels	N/A	N/A	N/A
Calcination CO ₂ emissions	Reported	0	0
Carbonation removals	N/A	N/A	N/A

Normal-Weight 2,500 psi - Air-Entrained*A1-A3 accumulated results per 1 m3 of fresh concrete*

Ind.	Description	Unit	2500-00-FA/SL-AE	2500-20-FA-AE	2500-30-FA-AE	2500-30-SL-AE	2500-40-FA-AE	2500-40-SL-AE	2500-50-FA/SL-AE	2500-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	272.59	238.90	220.69	218.58	201.46	200.58	182.05	182.58
GWPF	Global warming potential - fossil	kg CO2 eq	272.45	238.79	220.59	218.49	201.38	200.51	181.99	182.52
GWPB	Global warming potential - biogenic	kg CO2 eq	0.15	0.12	0.11	0.10	0.09	0.08	0.07	0.07
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	5.74E-06	4.88E-06	4.42E-06	5.98E-06	3.93E-06	6.06E-06	5.13E-06	6.14E-06
AP	Acidification potential	kg SO2 eq	0.86	0.82	0.80	0.92	0.78	0.94	0.89	0.96
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.34	0.31	0.29	0.30	0.27	0.28	0.26	0.26
EPM	Eutrophication potential - marine	kg N eq	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
EPF	Eutrophication potential - freshwater	kg P eq	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
SFP	Smog formation potential	kg O3 eq	18.75	18.30	18.06	20.30	17.80	20.81	19.93	21.33
ADP _f	Abiotic depletion potential - fossil resources	MJ	1816.68	1671.15	1592.49	1535.76	1509.45	1442.13	1375.45	1348.49
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.09E-04	1.07E-04	1.05E-04	1.03E-04	1.04E-04	1.01E-04	9.99E-05	9.88E-05
RPRE	Renewable primary energy used as an energy carrier	MJ	63.89	59.88	57.72	57.98	55.43	56.01	53.66	54.04
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	1771.41	1623.45	1543.48	1643.50	1459.05	1600.86	1488.81	1558.23
NRSF	Non-renewable secondary fuels	MJ	126.76	106.75	95.93	88.73	84.51	76.06	66.72	63.38
SM	Secondary materials	kg	0.00	54.51	83.97	77.68	115.08	103.57	136.27	129.46
FW	Net use of fresh water	m3	3.03	2.95	2.90	2.96	2.86	2.93	2.87	2.91
CCE	Calcination carbon emissions	kg CO2 eq	116.32	97.95	88.03	81.42	77.55	69.79	61.22	58.16
HWD	Hazardous waste disposed	kg	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	8.39	8.24	8.15	8.02	8.07	7.89	7.84	7.77
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 2,500 psi - Air-Entrained

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	2500-00-FA/SL-AE	2500-20-FA-AE	2500-30-FA-AE	2500-30-SL-AE	2500-40-FA-AE	2500-40-SL-AE	2500-50-FA/SL-AE	2500-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	239.22	203.87	184.76	183.12	164.59	164.42	144.82	145.72
GWPF	Global warming potential - fossil	kg CO2 eq	239.08	203.76	184.66	183.03	164.51	164.35	144.76	145.67
GWPB	Global warming potential - biogenic	kg CO2 eq	0.15	0.12	0.10	0.10	0.09	0.08	0.06	0.06
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	5.51E-06	4.65E-06	4.19E-06	5.75E-06	3.70E-06	5.83E-06	4.91E-06	5.91E-06
AP	Acidification potential	kg SO2 eq	0.51	0.44	0.40	0.53	0.36	0.54	0.46	0.55
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.32	0.28	0.26	0.27	0.24	0.25	0.23	0.24
EPM	Eutrophication potential - marine	kg N eq	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02
EPF	Eutrophication potential - freshwater	kg P eq	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
SFP	Smog formation potential	kg O3 eq	9.78	8.47	7.76	10.29	7.02	10.45	9.00	10.62
ADP _f	Abiotic depletion potential - fossil resources	MJ	1349.53	1182.46	1092.14	1041.25	996.81	938.49	857.95	835.73
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.08E-04	1.05E-04	1.04E-04	1.01E-04	1.02E-04	9.92E-05	9.83E-05	9.71E-05
RPRE	Renewable primary energy used as an energy carrier	MJ	59.36	55.35	53.19	53.45	50.91	51.48	49.14	49.51
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	1298.31	1128.60	1036.86	1142.77	940.03	1090.92	964.87	1039.07
NRSF	Non-renewable secondary fuels	MJ	126.76	106.75	95.93	88.73	84.51	76.06	66.72	63.38
SM	Secondary materials	kg	0.00	54.51	83.97	77.68	115.08	103.57	136.27	129.46
FW	Net use of fresh water	m3	2.23	2.15	2.10	2.16	2.06	2.13	2.07	2.11
CCE	Calcination carbon emissions	kg CO2 eq	116.32	97.95	88.03	81.42	77.55	69.79	61.22	58.16
HWD	Hazardous waste disposed	kg	3.10E-03	2.61E-03	2.35E-03	2.41E-03	2.08E-03	2.18E-03	1.89E-03	1.95E-03
NHWD	Non-hazardous waste disposed	kg	2.10	1.95	1.87	1.73	1.78	1.60	1.55	1.48
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 2,500 psi - Air-Entrained

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	2500-00-FA/SL-AE	2500-20-FA-AE	2500-30-FA-AE	2500-30-SL-AE	2500-40-FA-AE	2500-40-SL-AE	2500-50-FA/SL-AE	2500-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	22.47	24.13	25.02	24.56	25.97	25.25	26.32	25.95
GWPF	Global warming potential - fossil	kg CO2 eq	22.47	24.13	25.02	24.56	25.97	25.25	26.32	25.95
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	9.09E-10	9.72E-10	1.01E-09	9.89E-10	1.04E-09	1.02E-09	1.06E-09	1.04E-09
AP	Acidification potential	kg SO2 eq	0.31	0.34	0.36	0.35	0.38	0.36	0.38	0.37
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
EPM	Eutrophication potential - marine	kg N eq	0.08	0.09	0.09	0.09	0.09	0.09	0.10	0.09
EPF	Eutrophication potential - freshwater	kg P eq	2.70E-05	2.89E-05	2.99E-05	2.94E-05	3.10E-05	3.02E-05	3.14E-05	3.10E-05
SFP	Smog formation potential	kg O3 eq	8.48	9.34	9.81	9.53	10.30	9.87	10.44	10.22
ADP _f	Abiotic depletion potential - fossil resources	MJ	310.45	332.00	343.65	337.82	355.94	346.95	360.81	356.07
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.29E-08	3.46E-08	3.54E-08	3.51E-08	3.64E-08	3.58E-08	3.68E-08	3.65E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	2.87E-03	3.01E-03	3.09E-03	3.06E-03	3.17E-03	3.12E-03	3.21E-03	3.18E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	313.74	335.50	347.26	341.38	359.67	350.59	364.59	359.81
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 2,500 psi - Air-Entrained

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	2500-00-FA/SL-AE	2500-20-FA-AE	2500-30-FA-AE	2500-30-SL-AE	2500-40-FA-AE	2500-40-SL-AE	2500-50-FA/SL-AE	2500-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 3,000 psi - Air-Entrained*A1-A3 accumulated results per 1 m3 of fresh concrete*

Ind.	Description	Unit	3000-00-FA/SL-AE	3000-20-FA-AE	3000-30-FA-AE	3000-30-SL-AE	3000-40-FA-AE	3000-40-SL-AE	3000-50-FA/SL-AE	3000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	304.33	266.15	245.51	243.13	223.73	222.73	201.73	202.33
GWPF	Global warming potential - fossil	kg CO2 eq	304.17	266.03	245.41	243.03	223.64	222.65	201.66	202.27
GWPB	Global warming potential - biogenic	kg CO2 eq	0.17	0.14	0.12	0.11	0.10	0.09	0.08	0.07
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	6.46E-06	5.49E-06	4.96E-06	6.73E-06	4.41E-06	6.82E-06	5.77E-06	6.91E-06
AP	Acidification potential	kg SO2 eq	0.94	0.89	0.87	1.01	0.84	1.03	0.97	1.05
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.38	0.34	0.32	0.33	0.30	0.31	0.29	0.29
EPM	Eutrophication potential - marine	kg N eq	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13
EPF	Eutrophication potential - freshwater	kg P eq	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.03
SFP	Smog formation potential	kg O3 eq	20.28	19.77	19.50	22.04	19.21	22.62	21.62	23.21
ADP _f	Abiotic depletion potential - fossil resources	MJ	1993.35	1828.45	1739.31	1675.03	1645.22	1568.93	1493.38	1462.82
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.24E-04	1.21E-04	1.19E-04	1.17E-04	1.17E-04	1.14E-04	1.13E-04	1.12E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	71.77	67.24	64.78	65.08	62.20	62.85	60.19	60.62
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	1941.36	1773.70	1683.07	1796.42	1587.41	1748.10	1621.13	1699.79
NRSF	Non-renewable secondary fuels	MJ	143.64	120.96	108.70	100.55	95.76	86.18	75.60	71.82
SM	Secondary materials	kg	0.00	61.77	95.16	88.02	130.40	117.36	154.42	146.70
FW	Net use of fresh water	m3	3.05	2.96	2.91	2.97	2.85	2.94	2.87	2.91
CCE	Calcination carbon emissions	kg CO2 eq	131.81	111.00	99.75	92.27	87.87	79.08	69.37	65.90
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	8.67	8.50	8.40	8.25	8.30	8.11	8.05	7.97
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 3,000 psi - Air-Entrained

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	3000-00-FA/SL-AE	3000-20-FA-AE	3000-30-FA-AE	3000-30-SL-AE	3000-40-FA-AE	3000-40-SL-AE	3000-50-FA/SL-AE	3000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	269.96	229.90	208.25	206.39	185.40	185.21	162.99	164.02
GWPF	Global warming potential - fossil	kg CO2 eq	269.80	229.78	208.14	206.29	185.31	185.12	162.93	163.96
GWPB	Global warming potential - biogenic	kg CO2 eq	0.17	0.14	0.12	0.11	0.10	0.09	0.07	0.07
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	6.23E-06	5.26E-06	4.73E-06	6.50E-06	4.18E-06	6.59E-06	5.55E-06	6.68E-06
AP	Acidification potential	kg SO2 eq	0.57	0.49	0.45	0.59	0.40	0.60	0.52	0.61
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.36	0.32	0.29	0.30	0.27	0.29	0.26	0.27
EPM	Eutrophication potential - marine	kg N eq	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03
EPF	Eutrophication potential - freshwater	kg P eq	0.04	0.03	0.03	0.03	0.02	0.03	0.02	0.03
SFP	Smog formation potential	kg O3 eq	10.83	9.34	8.54	11.40	7.69	11.59	9.94	11.78
ADP _f	Abiotic depletion potential - fossil resources	MJ	1513.08	1323.75	1221.42	1163.74	1113.39	1047.30	956.03	930.85
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.22E-04	1.19E-04	1.17E-04	1.15E-04	1.15E-04	1.12E-04	1.11E-04	1.10E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	67.25	62.71	60.26	60.55	57.67	58.32	55.66	56.09
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	1455.01	1262.70	1158.74	1278.75	1049.02	1219.99	1077.16	1161.24
NRSF	Non-renewable secondary fuels	MJ	143.64	120.96	108.70	100.55	95.76	86.18	75.60	71.82
SM	Secondary materials	kg	0.00	61.77	95.16	88.02	130.40	117.36	154.42	146.70
FW	Net use of fresh water	m3	2.25	2.16	2.11	2.17	2.05	2.14	2.07	2.11
CCE	Calcination carbon emissions	kg CO2 eq	131.81	111.00	99.75	92.27	87.87	79.08	69.37	65.90
HWD	Hazardous waste disposed	kg	3.51E-03	2.96E-03	2.66E-03	2.73E-03	2.35E-03	2.47E-03	2.14E-03	2.21E-03
NHWD	Non-hazardous waste disposed	kg	2.38	2.21	2.11	1.96	2.01	1.82	1.76	1.68
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 3,000 psi - Air-Entrained

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	3000-00-FA/SL-AE	3000-20-FA-AE	3000-30-FA-AE	3000-30-SL-AE	3000-40-FA-AE	3000-40-SL-AE	3000-50-FA/SL-AE	3000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	23.47	25.34	26.36	25.83	27.43	26.62	27.83	27.40
GWPF	Global warming potential - fossil	kg CO2 eq	23.47	25.34	26.36	25.83	27.43	26.62	27.83	27.40
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	9.48E-10	1.02E-09	1.06E-09	1.04E-09	1.10E-09	1.07E-09	1.12E-09	1.10E-09
AP	Acidification potential	kg SO2 eq	0.33	0.36	0.38	0.37	0.40	0.39	0.41	0.40
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
EPM	Eutrophication potential - marine	kg N eq	0.08	0.09	0.10	0.09	0.10	0.10	0.10	0.10
EPF	Eutrophication potential - freshwater	kg P eq	2.82E-05	3.03E-05	3.15E-05	3.09E-05	3.27E-05	3.18E-05	3.32E-05	3.27E-05
SFP	Smog formation potential	kg O3 eq	8.97	9.94	10.47	10.15	11.03	10.55	11.19	10.94
ADP _f	Abiotic depletion potential - fossil resources	MJ	323.58	348.00	361.20	354.59	375.13	364.93	380.65	375.27
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.41E-08	3.59E-08	3.69E-08	3.65E-08	3.80E-08	3.73E-08	3.85E-08	3.81E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	2.97E-03	3.13E-03	3.22E-03	3.18E-03	3.31E-03	3.25E-03	3.35E-03	3.32E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	327.00	351.65	364.98	358.32	379.04	368.76	384.62	379.20
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.05	0.05	0.05	0.05	0.06	0.05	0.06	0.06
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 3,000 psi - Air-Entrained

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	3000-00-FA/SL-AE	3000-20-FA-AE	3000-30-FA-AE	3000-30-SL-AE	3000-40-FA-AE	3000-40-SL-AE	3000-50-FA/SL-AE	3000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 4,000 psi - Air-Entrained*A1-A3 accumulated results per 1 m3 of fresh concrete*

Ind.	Description	Unit	4000-00-FA/SL-AE	4000-20-FA-AE	4000-30-FA-AE	4000-30-SL-AE	4000-40-FA-AE	4000-40-SL-AE	4000-50-FA/SL-AE	4000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	376.21	327.87	301.74	298.72	274.16	272.89	246.30	247.06
GWPF	Global warming potential - fossil	kg CO2 eq	376.01	327.71	301.61	298.60	274.05	272.79	246.22	246.99
GWPB	Global warming potential - biogenic	kg CO2 eq	0.22	0.18	0.15	0.14	0.13	0.12	0.10	0.09
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	8.09E-06	6.86E-06	6.19E-06	8.43E-06	5.49E-06	8.55E-06	7.22E-06	8.66E-06
AP	Acidification potential	kg SO2 eq	1.11	1.05	1.02	1.20	0.99	1.23	1.15	1.26
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.48	0.42	0.40	0.41	0.37	0.38	0.35	0.36
EPM	Eutrophication potential - marine	kg N eq	0.14	0.15	0.15	0.15	0.15	0.15	0.15	0.15
EPF	Eutrophication potential - freshwater	kg P eq	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.03
SFP	Smog formation potential	kg O3 eq	23.75	23.11	22.76	25.97	22.39	26.71	25.45	27.46
ADP _f	Abiotic depletion potential - fossil resources	MJ	2393.50	2184.70	2071.84	1990.46	1952.71	1856.12	1760.46	1721.77
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.56E-04	1.52E-04	1.50E-04	1.47E-04	1.48E-04	1.44E-04	1.43E-04	1.41E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	89.64	83.89	80.79	81.16	77.51	78.34	74.97	75.51
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	2326.27	2113.99	1999.25	2142.76	1878.13	2081.59	1920.82	2020.41
NRSF	Non-renewable secondary fuels	MJ	181.87	153.15	137.63	127.31	121.25	109.12	95.72	90.93
SM	Secondary materials	kg	0.00	78.21	120.48	111.44	165.10	148.59	195.52	185.74
FW	Net use of fresh water	m3	3.09	2.98	2.91	2.99	2.85	2.96	2.87	2.92
CCE	Calcination carbon emissions	kg CO2 eq	166.89	140.54	126.29	116.82	111.26	100.13	87.84	83.44
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
NHWD	Non-hazardous waste disposed	kg	9.31	9.09	8.96	8.77	8.84	8.59	8.52	8.41
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 4,000 psi - Air-Entrained

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	4000-00-FA/SL-AE	4000-20-FA-AE	4000-30-FA-AE	4000-30-SL-AE	4000-40-FA-AE	4000-40-SL-AE	4000-50-FA/SL-AE	4000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	339.58	288.87	261.45	259.10	232.52	232.27	204.15	205.45
GWPF	Global warming potential - fossil	kg CO2 eq	339.38	288.71	261.32	258.97	232.40	232.17	204.07	205.37
GWPB	Global warming potential - biogenic	kg CO2 eq	0.21	0.17	0.15	0.14	0.12	0.11	0.09	0.09
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	7.86E-06	6.63E-06	5.97E-06	8.20E-06	5.27E-06	8.32E-06	6.99E-06	8.43E-06
AP	Acidification potential	kg SO2 eq	0.70	0.60	0.55	0.74	0.49	0.75	0.64	0.76
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.45	0.40	0.37	0.38	0.34	0.35	0.32	0.33
EPM	Eutrophication potential - marine	kg N eq	0.04	0.04	0.04	0.04	0.03	0.04	0.03	0.03
EPF	Eutrophication potential - freshwater	kg P eq	0.05	0.04	0.03	0.04	0.03	0.03	0.03	0.03
SFP	Smog formation potential	kg O3 eq	13.20	11.32	10.30	13.92	9.23	14.16	12.07	14.40
ADP _f	Abiotic depletion potential - fossil resources	MJ	1883.49	1643.78	1514.20	1441.18	1377.43	1293.75	1178.19	1146.31
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.55E-04	1.51E-04	1.48E-04	1.45E-04	1.46E-04	1.42E-04	1.41E-04	1.39E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	85.11	79.37	76.26	76.64	72.98	73.81	70.45	70.99
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	1809.90	1566.40	1434.79	1586.73	1295.86	1512.34	1331.49	1437.95
NRSF	Non-renewable secondary fuels	MJ	181.87	153.15	137.63	127.31	121.25	109.12	95.72	90.93
SM	Secondary materials	kg	0.00	78.21	120.48	111.44	165.10	148.59	195.52	185.74
FW	Net use of fresh water	m3	2.29	2.17	2.11	2.19	2.04	2.15	2.06	2.11
CCE	Calcination carbon emissions	kg CO2 eq	166.89	140.54	126.29	116.82	111.26	100.13	87.84	83.44
HWD	Hazardous waste disposed	kg	4.44E-03	3.75E-03	3.37E-03	3.46E-03	2.98E-03	3.13E-03	2.71E-03	2.80E-03
NHWD	Non-hazardous waste disposed	kg	3.02	2.80	2.68	2.48	2.55	2.30	2.23	2.12
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 4,000 psi - Air-Entrained

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	4000-00-FA/SL-AE	4000-20-FA-AE	4000-30-FA-AE	4000-30-SL-AE	4000-40-FA-AE	4000-40-SL-AE	4000-50-FA/SL-AE	4000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	25.72	28.10	29.38	28.72	30.74	29.71	31.25	30.71
GWPF	Global warming potential - fossil	kg CO2 eq	25.72	28.10	29.38	28.72	30.74	29.71	31.25	30.71
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.03E-09	1.13E-09	1.17E-09	1.15E-09	1.23E-09	1.19E-09	1.25E-09	1.23E-09
AP	Acidification potential	kg SO2 eq	0.37	0.41	0.44	0.42	0.46	0.44	0.47	0.46
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.03
EPM	Eutrophication potential - marine	kg N eq	0.09	0.10	0.11	0.11	0.12	0.11	0.12	0.11
EPF	Eutrophication potential - freshwater	kg P eq	3.08E-05	3.35E-05	3.49E-05	3.42E-05	3.65E-05	3.54E-05	3.71E-05	3.65E-05
SFP	Smog formation potential	kg O3 eq	10.07	11.31	11.97	11.57	12.68	12.07	12.89	12.57
ADP _f	Abiotic depletion potential - fossil resources	MJ	353.31	384.23	400.94	392.58	418.59	405.68	425.57	418.77
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.67E-08	3.90E-08	4.03E-08	3.97E-08	4.16E-08	4.08E-08	4.22E-08	4.18E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	3.20E-03	3.40E-03	3.51E-03	3.46E-03	3.63E-03	3.55E-03	3.68E-03	3.64E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	357.02	388.24	405.11	396.68	422.92	409.89	429.98	423.11
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 4,000 psi - Air-Entrained

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	4000-00-FA/SL-AE	4000-20-FA-AE	4000-30-FA-AE	4000-30-SL-AE	4000-40-FA-AE	4000-40-SL-AE	4000-50-FA/SL-AE	4000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 5,000 psi - Air-Entrained*A1-A3 accumulated results per 1 m3 of fresh concrete*

Ind.	Description	Unit	5000-00-FA/SL-AE	5000-20-FA-AE	5000-30-FA-AE	5000-30-SL-AE	5000-40-FA-AE	5000-40-SL-AE	5000-50-FA/SL-AE	5000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	464.16	404.04	371.54	367.51	337.24	335.29	302.30	303.07
GWPF	Global warming potential - fossil	kg CO2 eq	463.92	403.85	371.38	367.36	337.11	335.17	302.21	302.99
GWPB	Global warming potential - biogenic	kg CO2 eq	0.26	0.21	0.18	0.17	0.15	0.14	0.11	0.11
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.00E-05	8.47E-06	7.64E-06	1.04E-05	6.77E-06	1.06E-05	8.93E-06	1.07E-05
AP	Acidification potential	kg SO2 eq	1.32	1.25	1.21	1.43	1.18	1.47	1.37	1.51
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.61	0.55	0.51	0.52	0.48	0.49	0.46	0.47
EPM	Eutrophication potential - marine	kg N eq	0.17	0.17	0.18	0.17	0.18	0.18	0.18	0.18
EPF	Eutrophication potential - freshwater	kg P eq	0.06	0.05	0.04	0.05	0.04	0.04	0.04	0.04
SFP	Smog formation potential	kg O3 eq	27.87	27.07	26.64	30.65	26.18	31.57	29.99	32.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	2937.80	2681.19	2542.47	2435.10	2396.06	2267.53	2152.02	2099.96
ADP _e	Abiotic depletion potential - elements	kg Sb eq	2.27E-04	2.23E-04	2.21E-04	2.15E-04	2.20E-04	2.11E-04	2.11E-04	2.07E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	122.67	116.14	112.61	112.10	108.88	108.58	105.01	105.05
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	2828.39	2566.15	2424.40	2599.50	2274.77	2523.20	2325.20	2446.90
NRSF	Non-renewable secondary fuels	MJ	226.84	191.03	171.67	158.79	151.23	136.11	119.39	113.42
SM	Secondary materials	kg	0.00	97.55	150.28	139.00	205.93	185.34	243.87	231.67
FW	Net use of fresh water	m3	3.17	3.03	2.95	3.04	2.87	3.00	2.89	2.96
CCE	Calcination carbon emissions	kg CO2 eq	208.16	175.29	157.53	145.71	138.77	124.90	109.56	104.08
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
NHWD	Non-hazardous waste disposed	kg	10.45	10.20	10.06	9.78	9.91	9.56	9.49	9.34
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 5,000 psi - Air-Entrained

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	5000-00-FA/SL-AE	5000-20-FA-AE	5000-30-FA-AE	5000-30-SL-AE	5000-40-FA-AE	5000-40-SL-AE	5000-50-FA/SL-AE	5000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	424.79	361.70	327.60	324.41	291.61	290.95	256.04	257.48
GWPF	Global warming potential - fossil	kg CO2 eq	424.55	361.52	327.44	324.26	291.48	290.83	255.95	257.40
GWPB	Global warming potential - biogenic	kg CO2 eq	0.26	0.21	0.18	0.17	0.15	0.13	0.11	0.10
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	9.78E-06	8.25E-06	7.42E-06	1.02E-05	6.54E-06	1.04E-05	8.70E-06	1.05E-05
AP	Acidification potential	kg SO2 eq	0.87	0.74	0.68	0.91	0.61	0.93	0.79	0.94
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.58	0.51	0.48	0.49	0.44	0.46	0.42	0.43
EPM	Eutrophication potential - marine	kg N eq	0.06	0.05	0.05	0.05	0.04	0.05	0.04	0.04
EPF	Eutrophication potential - freshwater	kg P eq	0.06	0.05	0.04	0.05	0.04	0.04	0.04	0.04
SFP	Smog formation potential	kg O3 eq	16.00	13.65	12.38	16.90	11.05	17.20	14.60	17.50
ADP _f	Abiotic depletion potential - fossil resources	MJ	2391.64	2096.39	1936.80	1839.95	1768.34	1656.05	1515.67	1472.16
ADP _e	Abiotic depletion potential - elements	kg Sb eq	2.25E-04	2.22E-04	2.20E-04	2.13E-04	2.18E-04	2.10E-04	2.09E-04	2.06E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	118.14	111.61	108.08	107.57	104.35	104.05	100.48	100.53
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	2275.51	1974.27	1811.43	1997.15	1639.55	1904.36	1681.26	1811.57
NRSF	Non-renewable secondary fuels	MJ	226.84	191.03	171.67	158.79	151.23	136.11	119.39	113.42
SM	Secondary materials	kg	0.00	97.55	150.28	139.00	205.93	185.34	243.87	231.67
FW	Net use of fresh water	m3	2.37	2.22	2.14	2.23	2.05	2.19	2.08	2.14
CCE	Calcination carbon emissions	kg CO2 eq	208.16	175.29	157.53	145.71	138.77	124.90	109.56	104.08
HWD	Hazardous waste disposed	kg	5.54E-03	4.68E-03	4.21E-03	4.31E-03	3.71E-03	3.90E-03	3.38E-03	3.49E-03
NHWD	Non-hazardous waste disposed	kg	4.17	3.91	3.77	3.49	3.62	3.27	3.20	3.05
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 5,000 psi - Air-Entrained

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	5000-00-FA/SL-AE	5000-20-FA-AE	5000-30-FA-AE	5000-30-SL-AE	5000-40-FA-AE	5000-40-SL-AE	5000-50-FA/SL-AE	5000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	28.46	31.43	33.03	32.19	34.73	33.44	35.36	34.68
GWPF	Global warming potential - fossil	kg CO2 eq	28.46	31.43	33.03	32.19	34.73	33.44	35.36	34.68
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.14E-09	1.25E-09	1.32E-09	1.28E-09	1.38E-09	1.33E-09	1.41E-09	1.38E-09
AP	Acidification potential	kg SO2 eq	0.42	0.47	0.50	0.48	0.53	0.50	0.54	0.53
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03
EPM	Eutrophication potential - marine	kg N eq	0.10	0.12	0.12	0.12	0.13	0.13	0.13	0.13
EPF	Eutrophication potential - freshwater	kg P eq	3.39E-05	3.73E-05	3.91E-05	3.82E-05	4.11E-05	3.96E-05	4.18E-05	4.11E-05
SFP	Smog formation potential	kg O3 eq	11.39	12.93	13.77	13.26	14.65	13.89	14.91	14.51
ADP _f	Abiotic depletion potential - fossil resources	MJ	389.47	428.10	448.98	438.45	471.02	454.78	479.66	471.11
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.98E-08	4.27E-08	4.43E-08	4.37E-08	4.60E-08	4.49E-08	4.68E-08	4.62E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	3.47E-03	3.73E-03	3.86E-03	3.81E-03	4.01E-03	3.92E-03	4.08E-03	4.03E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	393.53	432.53	453.61	442.99	475.86	459.48	484.59	475.97
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 5,000 psi - Air-Entrained

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	5000-00-FA/SL-AE	5000-20-FA-AE	5000-30-FA-AE	5000-30-SL-AE	5000-40-FA-AE	5000-40-SL-AE	5000-50-FA/SL-AE	5000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 2,500 psi - Non-Air-Entrained*A1-A3 accumulated results per 1 m3 of fresh concrete*

Ind.	Description	Unit	2500-00-FA/SL	2500-20-FA	2500-30-FA	2500-30-SL	2500-40-FA	2500-40-SL	2500-50-FA/SL	2500-50-SL
GWPT	Global warming potential - total	kg CO2 eq	253.19	221.37	204.17	202.62	186.01	185.77	168.14	168.91
GWPF	Global warming potential - fossil	kg CO2 eq	253.03	221.23	204.05	202.51	185.91	185.67	168.06	168.83
GWPB	Global warming potential - biogenic	kg CO2 eq	0.17	0.14	0.13	0.12	0.11	0.10	0.09	0.08
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	5.40E-06	4.59E-06	4.16E-06	5.62E-06	3.70E-06	5.70E-06	4.83E-06	5.77E-06
AP	Acidification potential	kg SO2 eq	0.82	0.78	0.76	0.88	0.74	0.90	0.84	0.92
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.29	0.25	0.23	0.24	0.21	0.23	0.21	0.21
EPM	Eutrophication potential - marine	kg N eq	0.11	0.11	0.11	0.11	0.12	0.11	0.12	0.12
EPF	Eutrophication potential - freshwater	kg P eq	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.02
SFP	Smog formation potential	kg O3 eq	18.26	17.84	17.61	19.71	17.37	20.19	19.36	20.68
ADP _f	Abiotic depletion potential - fossil resources	MJ	1631.71	1489.38	1412.45	1368.70	1331.24	1281.03	1212.53	1193.36
ADP _e	Abiotic depletion potential - elements	kg Sb eq	5.21E-05	4.68E-05	4.40E-05	4.61E-05	4.10E-05	4.41E-05	4.05E-05	4.21E-05
RPRE	Renewable primary energy used as an energy carrier	MJ	41.04	36.29	33.72	35.51	31.01	33.67	30.47	31.82
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	1628.09	1485.50	1408.43	1508.33	1327.07	1468.41	1359.44	1428.49
NRSF	Non-renewable secondary fuels	MJ	118.68	99.94	89.81	83.08	79.12	71.21	62.47	59.34
SM	Secondary materials	kg	0.00	51.04	78.62	72.73	107.74	96.97	127.59	121.21
FW	Net use of fresh water	m3	3.08	3.01	2.97	3.02	2.92	2.99	2.94	2.97
CCE	Calcination carbon emissions	kg CO2 eq	108.91	91.71	82.42	76.24	72.61	65.34	57.32	54.45
HWD	Hazardous waste disposed	kg	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	7.63	7.45	7.35	7.28	7.25	7.16	7.08	7.04
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 2,500 psi - Non-Air-Entrained

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	2500-00-FA/SL	2500-20-FA	2500-30-FA	2500-30-SL	2500-40-FA	2500-40-SL	2500-50-FA/SL	2500-50-SL
GWPT	Global warming potential - total	kg CO2 eq	219.77	186.40	168.37	167.25	149.33	149.74	131.12	132.23
GWPF	Global warming potential - fossil	kg CO2 eq	219.61	186.27	168.25	167.14	149.23	149.65	131.04	132.16
GWPB	Global warming potential - biogenic	kg CO2 eq	0.16	0.14	0.12	0.11	0.11	0.10	0.08	0.08
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	5.17E-06	4.37E-06	3.93E-06	5.39E-06	3.48E-06	5.47E-06	4.60E-06	5.54E-06
AP	Acidification potential	kg SO2 eq	0.47	0.40	0.37	0.49	0.33	0.50	0.43	0.51
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.27	0.23	0.21	0.22	0.19	0.20	0.18	0.19
EPM	Eutrophication potential - marine	kg N eq	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02
EPF	Eutrophication potential - freshwater	kg P eq	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.02
SFP	Smog formation potential	kg O3 eq	9.36	8.13	7.47	9.83	6.77	9.99	8.63	10.14
ADP _f	Abiotic depletion potential - fossil resources	MJ	1163.51	1001.10	913.31	874.87	820.64	778.66	697.27	682.44
ADP _e	Abiotic depletion potential - elements	kg Sb eq	5.04E-05	4.52E-05	4.23E-05	4.44E-05	3.93E-05	4.24E-05	3.88E-05	4.04E-05
RPRE	Renewable primary energy used as an energy carrier	MJ	36.51	31.76	29.19	30.98	26.48	29.14	25.94	27.30
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	1153.92	991.05	903.02	1008.28	810.10	959.73	837.75	911.19
NRSF	Non-renewable secondary fuels	MJ	118.68	99.94	89.81	83.08	79.12	71.21	62.47	59.34
SM	Secondary materials	kg	0.00	51.04	78.62	72.73	107.74	96.97	127.59	121.21
FW	Net use of fresh water	m3	2.29	2.21	2.17	2.22	2.12	2.20	2.14	2.17
CCE	Calcination carbon emissions	kg CO2 eq	108.91	91.71	82.42	76.24	72.61	65.34	57.32	54.45
HWD	Hazardous waste disposed	kg	2.88E-03	2.42E-03	2.18E-03	2.23E-03	1.92E-03	2.02E-03	1.74E-03	1.80E-03
NHWD	Non-hazardous waste disposed	kg	1.34	1.16	1.06	0.99	0.96	0.87	0.79	0.75
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 2,500 psi - Non-Air-Entrained

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	2500-00-FA/SL	2500-20-FA	2500-30-FA	2500-30-SL	2500-40-FA	2500-40-SL	2500-50-FA/SL	2500-50-SL
GWPT	Global warming potential - total	kg CO2 eq	22.51	24.06	24.89	24.47	25.77	25.12	26.11	25.77
GWPF	Global warming potential - fossil	kg CO2 eq	22.51	24.06	24.89	24.47	25.77	25.12	26.11	25.77
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	9.12E-10	9.71E-10	1.00E-09	9.87E-10	1.04E-09	1.01E-09	1.05E-09	1.04E-09
AP	Acidification potential	kg SO2 eq	0.31	0.34	0.35	0.35	0.37	0.36	0.38	0.37
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
EPM	Eutrophication potential - marine	kg N eq	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09
EPF	Eutrophication potential - freshwater	kg P eq	2.71E-05	2.89E-05	2.98E-05	2.94E-05	3.08E-05	3.01E-05	3.12E-05	3.09E-05
SFP	Smog formation potential	kg O3 eq	8.42	9.22	9.66	9.40	10.12	9.72	10.25	10.05
ADP _f	Abiotic depletion potential - fossil resources	MJ	311.50	331.59	342.44	337.13	353.90	345.68	358.57	354.22
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.33E-08	3.48E-08	3.56E-08	3.53E-08	3.64E-08	3.59E-08	3.69E-08	3.66E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	2.90E-03	3.03E-03	3.10E-03	3.07E-03	3.18E-03	3.13E-03	3.21E-03	3.19E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	314.82	335.09	346.05	340.69	357.62	349.32	362.33	357.95
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 2,500 psi - Non-Air-Entrained

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	2500-00-FA/SL	2500-20-FA	2500-30-FA	2500-30-SL	2500-40-FA	2500-40-SL	2500-50-FA/SL	2500-50-SL
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 3,000 psi - Non-Air-Entrained*A1-A3 accumulated results per 1 m3 of fresh concrete*

Ind.	Description	Unit	3000-00-FA/SL	3000-20-FA	3000-30-FA	3000-30-SL	3000-40-FA	3000-40-SL	3000-50-FA/SL	3000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	276.34	241.13	222.10	220.40	202.02	201.75	182.25	183.10
GWPF	Global warming potential - fossil	kg CO2 eq	276.16	240.99	221.97	220.28	201.90	201.65	182.16	183.02
GWPB	Global warming potential - biogenic	kg CO2 eq	0.18	0.15	0.14	0.13	0.12	0.11	0.10	0.09
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	5.93E-06	5.05E-06	4.57E-06	6.18E-06	4.06E-06	6.27E-06	5.31E-06	6.35E-06
AP	Acidification potential	kg SO2 eq	0.88	0.83	0.81	0.94	0.79	0.96	0.90	0.98
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.32	0.28	0.25	0.27	0.23	0.25	0.22	0.23
EPM	Eutrophication potential - marine	kg N eq	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
EPF	Eutrophication potential - freshwater	kg P eq	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02
SFP	Smog formation potential	kg O3 eq	19.40	18.93	18.68	21.00	18.41	21.54	20.62	22.07
ADP _f	Abiotic depletion potential - fossil resources	MJ	1751.41	1593.96	1508.86	1460.46	1419.02	1363.48	1287.70	1266.49
ADP _e	Abiotic depletion potential - elements	kg Sb eq	5.74E-05	5.16E-05	4.85E-05	5.08E-05	4.52E-05	4.86E-05	4.46E-05	4.63E-05
RPRE	Renewable primary energy used as an energy carrier	MJ	44.91	39.65	36.81	38.79	33.81	36.75	33.21	34.71
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	1746.83	1589.10	1503.84	1614.35	1413.84	1570.19	1449.65	1526.03
NRSF	Non-renewable secondary fuels	MJ	131.29	110.56	99.35	91.90	87.53	78.77	69.10	65.65
SM	Secondary materials	kg	0.00	56.46	86.97	80.45	119.19	107.27	141.14	134.09
FW	Net use of fresh water	m3	3.10	3.01	2.96	3.02	2.91	3.00	2.93	2.97
CCE	Calcination carbon emissions	kg CO2 eq	120.48	101.45	91.17	84.33	80.32	72.29	63.41	60.24
HWD	Hazardous waste disposed	kg	0.16	0.16	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	7.77	7.57	7.47	7.38	7.35	7.25	7.16	7.12
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 3,000 psi - Non-Air-Entrained

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	3000-00-FA/SL	3000-20-FA	3000-30-FA	3000-30-SL	3000-40-FA	3000-40-SL	3000-50-FA/SL	3000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	242.18	205.27	185.32	184.09	164.26	164.72	144.12	145.35
GWPF	Global warming potential - fossil	kg CO2 eq	242.01	205.13	185.19	183.96	164.15	164.62	144.03	145.27
GWPB	Global warming potential - biogenic	kg CO2 eq	0.18	0.15	0.13	0.12	0.12	0.11	0.09	0.09
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	5.71E-06	4.82E-06	4.34E-06	5.96E-06	3.83E-06	6.04E-06	5.08E-06	6.12E-06
AP	Acidification potential	kg SO2 eq	0.51	0.44	0.40	0.54	0.36	0.55	0.47	0.55
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.29	0.25	0.23	0.24	0.20	0.22	0.20	0.21
EPM	Eutrophication potential - marine	kg N eq	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02
EPF	Eutrophication potential - freshwater	kg P eq	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02
SFP	Smog formation potential	kg O3 eq	10.14	8.78	8.05	10.66	7.27	10.83	9.33	11.01
ADP _f	Abiotic depletion potential - fossil resources	MJ	1273.59	1093.93	996.81	954.29	894.30	847.86	757.82	741.42
ADP _e	Abiotic depletion potential - elements	kg Sb eq	5.57E-05	4.99E-05	4.68E-05	4.91E-05	4.35E-05	4.69E-05	4.29E-05	4.47E-05
RPRE	Renewable primary energy used as an energy carrier	MJ	40.38	35.12	32.28	34.26	29.28	32.22	28.68	30.18
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	1262.95	1082.79	985.40	1101.84	882.61	1048.14	913.20	994.44
NRSF	Non-renewable secondary fuels	MJ	131.29	110.56	99.35	91.90	87.53	78.77	69.10	65.65
SM	Secondary materials	kg	0.00	56.46	86.97	80.45	119.19	107.27	141.14	134.09
FW	Net use of fresh water	m3	2.30	2.21	2.16	2.22	2.11	2.20	2.13	2.17
CCE	Calcination carbon emissions	kg CO2 eq	120.48	101.45	91.17	84.33	80.32	72.29	63.41	60.24
HWD	Hazardous waste disposed	kg	3.18E-03	2.68E-03	2.41E-03	2.47E-03	2.12E-03	2.23E-03	1.93E-03	1.99E-03
NHWD	Non-hazardous waste disposed	kg	1.48	1.28	1.18	1.09	1.06	0.96	0.88	0.83
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 3,000 psi - Non-Air-Entrained

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	3000-00-FA/SL	3000-20-FA	3000-30-FA	3000-30-SL	3000-40-FA	3000-40-SL	3000-50-FA/SL	3000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	23.25	24.95	25.88	25.40	26.85	26.12	27.23	26.84
GWPF	Global warming potential - fossil	kg CO2 eq	23.25	24.95	25.88	25.40	26.85	26.12	27.23	26.84
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	9.40E-10	1.01E-09	1.04E-09	1.02E-09	1.08E-09	1.05E-09	1.09E-09	1.08E-09
AP	Acidification potential	kg SO2 eq	0.32	0.36	0.37	0.36	0.39	0.37	0.40	0.39
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
EPM	Eutrophication potential - marine	kg N eq	0.08	0.09	0.09	0.09	0.10	0.09	0.10	0.10
EPF	Eutrophication potential - freshwater	kg P eq	2.80E-05	2.99E-05	3.10E-05	3.04E-05	3.21E-05	3.13E-05	3.25E-05	3.21E-05
SFP	Smog formation potential	kg O3 eq	8.78	9.67	10.15	9.86	10.66	10.22	10.81	10.58
ADP _f	Abiotic depletion potential - fossil resources	MJ	321.12	343.34	355.35	349.47	368.03	358.92	373.18	368.37
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.41E-08	3.57E-08	3.66E-08	3.63E-08	3.76E-08	3.70E-08	3.81E-08	3.78E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	2.97E-03	3.12E-03	3.20E-03	3.16E-03	3.28E-03	3.23E-03	3.32E-03	3.29E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	324.53	346.96	359.08	353.15	371.88	362.70	377.09	372.24
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.05	0.05	0.05	0.05	0.06	0.05	0.06	0.06
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 3,000 psi - Non-Air-Entrained

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	3000-00-FA/SL	3000-20-FA	3000-30-FA	3000-30-SL	3000-40-FA	3000-40-SL	3000-50-FA/SL	3000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 4,000 psi - Non-Air-Entrained*A1-A3 accumulated results per 1 m3 of fresh concrete*

Ind.	Description	Unit	4000-00-FA/SL	4000-20-FA	4000-30-FA	4000-30-SL	4000-40-FA	4000-40-SL	4000-50-FA/SL	4000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	330.17	287.11	263.83	261.74	239.26	238.93	215.07	216.12
GWPF	Global warming potential - fossil	kg CO2 eq	329.96	286.93	263.67	261.59	239.12	238.80	214.96	216.01
GWPB	Global warming potential - biogenic	kg CO2 eq	0.22	0.19	0.17	0.16	0.15	0.13	0.12	0.11
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	7.18E-06	6.10E-06	5.51E-06	7.49E-06	4.89E-06	7.59E-06	6.42E-06	7.69E-06
AP	Acidification potential	kg SO2 eq	1.00	0.95	0.93	1.08	0.90	1.11	1.04	1.14
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.38	0.33	0.30	0.32	0.27	0.30	0.26	0.28
EPM	Eutrophication potential - marine	kg N eq	0.13	0.13	0.14	0.13	0.14	0.14	0.14	0.14
EPF	Eutrophication potential - freshwater	kg P eq	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03
SFP	Smog formation potential	kg O3 eq	22.05	21.48	21.17	24.01	20.84	24.67	23.54	25.32
ADP _f	Abiotic depletion potential - fossil resources	MJ	2029.81	1837.20	1733.09	1673.88	1623.19	1555.24	1462.54	1436.60
ADP _e	Abiotic depletion potential - elements	kg Sb eq	6.98E-05	6.27E-05	5.88E-05	6.17E-05	5.48E-05	5.90E-05	5.41E-05	5.62E-05
RPRE	Renewable primary energy used as an energy carrier	MJ	53.89	47.46	43.99	46.41	40.32	43.92	39.58	41.42
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	2023.02	1830.06	1725.76	1860.95	1615.66	1806.93	1659.46	1752.90
NRSF	Non-renewable secondary fuels	MJ	160.61	135.25	121.54	112.43	107.07	96.37	84.53	80.31
SM	Secondary materials	kg	0.00	69.07	106.40	98.42	145.81	131.23	172.66	164.03
FW	Net use of fresh water	m3	3.12	3.02	2.96	3.03	2.90	3.00	2.92	2.97
CCE	Calcination carbon emissions	kg CO2 eq	147.38	124.11	111.53	103.17	98.25	88.43	77.57	73.69
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.15	0.16	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	8.10	7.86	7.73	7.63	7.59	7.47	7.36	7.31
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 4,000 psi - Non-Air-Entrained*A1 - Raw Material Supply results per 1 m3 of fresh concrete*

Ind.	Description	Unit	4000-00-FA/SL	4000-20-FA	4000-30-FA	4000-30-SL	4000-40-FA	4000-40-SL	4000-50-FA/SL	4000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	294.32	249.16	224.76	223.24	198.99	199.55	174.35	175.86
GWPF	Global warming potential - fossil	kg CO2 eq	294.10	248.98	224.60	223.09	198.85	199.43	174.24	175.76
GWPB	Global warming potential - biogenic	kg CO2 eq	0.22	0.18	0.16	0.15	0.14	0.13	0.11	0.11
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	6.96E-06	5.87E-06	5.29E-06	7.26E-06	4.67E-06	7.36E-06	6.19E-06	7.46E-06
AP	Acidification potential	kg SO2 eq	0.61	0.52	0.47	0.64	0.42	0.65	0.56	0.66
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.35	0.30	0.27	0.29	0.24	0.27	0.23	0.25
EPM	Eutrophication potential - marine	kg N eq	0.04	0.03	0.03	0.03	0.02	0.03	0.02	0.02
EPF	Eutrophication potential - freshwater	kg P eq	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03
SFP	Smog formation potential	kg O3 eq	11.95	10.29	9.39	12.59	8.44	12.80	10.96	13.01
ADP _f	Abiotic depletion potential - fossil resources	MJ	1529.62	1309.83	1191.03	1139.01	1065.63	1008.81	898.67	878.60
ADP _e	Abiotic depletion potential - elements	kg Sb eq	6.81E-05	6.10E-05	5.72E-05	6.00E-05	5.31E-05	5.73E-05	5.24E-05	5.46E-05
RPRE	Renewable primary energy used as an energy carrier	MJ	49.37	42.93	39.46	41.88	35.79	39.39	35.06	36.89
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	1516.55	1296.15	1177.01	1319.46	1051.26	1253.76	1088.69	1188.07
NRSF	Non-renewable secondary fuels	MJ	160.61	135.25	121.54	112.43	107.07	96.37	84.53	80.31
SM	Secondary materials	kg	0.00	69.07	106.40	98.42	145.81	131.23	172.66	164.03
FW	Net use of fresh water	m3	2.32	2.22	2.16	2.23	2.10	2.20	2.12	2.17
CCE	Calcination carbon emissions	kg CO2 eq	147.38	124.11	111.53	103.17	98.25	88.43	77.57	73.69
HWD	Hazardous waste disposed	kg	3.89E-03	3.28E-03	2.95E-03	3.02E-03	2.59E-03	2.73E-03	2.36E-03	2.44E-03
NHWD	Non-hazardous waste disposed	kg	1.81	1.57	1.44	1.34	1.30	1.18	1.07	1.02
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 4,000 psi - Non-Air-Entrained

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	4000-00-FA/SL	4000-20-FA	4000-30-FA	4000-30-SL	4000-40-FA	4000-40-SL	4000-50-FA/SL	4000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	24.95	27.04	28.16	27.59	29.36	28.47	29.82	29.35
GWPF	Global warming potential - fossil	kg CO2 eq	24.95	27.04	28.16	27.59	29.36	28.47	29.82	29.35
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.01E-09	1.09E-09	1.13E-09	1.11E-09	1.17E-09	1.14E-09	1.19E-09	1.18E-09
AP	Acidification potential	kg SO2 eq	0.35	0.39	0.41	0.40	0.43	0.42	0.44	0.43
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02
EPM	Eutrophication potential - marine	kg N eq	0.09	0.10	0.10	0.10	0.11	0.10	0.11	0.11
EPF	Eutrophication potential - freshwater	kg P eq	2.99E-05	3.23E-05	3.36E-05	3.29E-05	3.49E-05	3.40E-05	3.55E-05	3.50E-05
SFP	Smog formation potential	kg O3 eq	9.61	10.70	11.29	10.94	11.91	11.38	12.10	11.82
ADP _f	Abiotic depletion potential - fossil resources	MJ	343.49	370.67	385.36	378.18	400.87	389.74	407.18	401.30
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.60E-08	3.80E-08	3.92E-08	3.87E-08	4.03E-08	3.96E-08	4.09E-08	4.05E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	3.14E-03	3.32E-03	3.41E-03	3.38E-03	3.52E-03	3.45E-03	3.57E-03	3.53E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	347.11	374.55	389.39	382.13	405.04	393.81	411.42	405.48
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 4,000 psi - Non-Air-Entrained

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	4000-00-FA/SL	4000-20-FA	4000-30-FA	4000-30-SL	4000-40-FA	4000-40-SL	4000-50-FA/SL	4000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 5,000 psi - Non-Air-Entrained

A1-A3 accumulated results per 1 m3 of fresh concrete

Ind.	Description	Unit	5000-00-FA/SL	5000-20-FA	5000-30-FA	5000-30-SL	5000-40-FA	5000-40-SL	5000-50-FA/SL	5000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	410.67	356.37	327.02	324.14	296.04	295.29	265.29	266.45
GWPF	Global warming potential - fossil	kg CO2 eq	410.41	356.16	326.83	323.96	295.87	295.15	265.16	266.33
GWPB	Global warming potential - biogenic	kg CO2 eq	0.28	0.23	0.21	0.19	0.18	0.16	0.14	0.14
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	8.99E-06	7.62E-06	6.88E-06	9.38E-06	6.10E-06	9.51E-06	8.03E-06	9.64E-06
AP	Acidification potential	kg SO2 eq	1.19	1.13	1.10	1.29	1.06	1.33	1.24	1.36
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.49	0.43	0.39	0.41	0.36	0.38	0.35	0.36
EPM	Eutrophication potential - marine	kg N eq	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.16
EPF	Eutrophication potential - freshwater	kg P eq	0.05	0.04	0.04	0.04	0.03	0.04	0.03	0.04
SFP	Smog formation potential	kg O3 eq	25.78	25.05	24.66	28.26	24.25	29.08	27.67	29.91
ADP _f	Abiotic depletion potential - fossil resources	MJ	2491.56	2251.43	2121.63	2041.50	1984.61	1891.49	1777.68	1741.47
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.17E-04	1.09E-04	1.05E-04	1.06E-04	1.01E-04	1.03E-04	9.82E-05	9.94E-05
RPRE	Renewable primary energy used as an energy carrier	MJ	77.67	70.11	66.02	68.21	61.70	65.06	60.15	61.90
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	2459.79	2218.06	2087.40	2254.86	1949.48	2186.55	2002.35	2118.24
NRSF	Non-renewable secondary fuels	MJ	203.09	171.02	153.69	142.16	135.39	121.85	106.89	101.54
SM	Secondary materials	kg	0.00	87.33	134.54	124.45	184.37	165.93	218.33	207.41
FW	Net use of fresh water	m3	3.15	3.01	2.94	3.03	2.87	2.99	2.89	2.95
CCE	Calcination carbon emissions	kg CO2 eq	186.36	156.93	141.03	130.45	124.24	111.82	98.08	93.18
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
NHWD	Non-hazardous waste disposed	kg	8.94	8.65	8.50	8.34	8.33	8.14	8.02	7.94
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 5,000 psi - Non-Air-Entrained

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	5000-00-FA/SL	5000-20-FA	5000-30-FA	5000-30-SL	5000-40-FA	5000-40-SL	5000-50-FA/SL	5000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	372.61	315.66	284.88	282.73	252.39	252.78	221.06	222.82
GWPF	Global warming potential - fossil	kg CO2 eq	372.35	315.45	284.69	282.56	252.23	252.63	220.93	222.70
GWPB	Global warming potential - biogenic	kg CO2 eq	0.27	0.23	0.20	0.19	0.18	0.16	0.14	0.13
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	8.77E-06	7.40E-06	6.65E-06	9.15E-06	5.87E-06	9.28E-06	7.80E-06	9.41E-06
AP	Acidification potential	kg SO2 eq	0.76	0.65	0.59	0.80	0.53	0.81	0.69	0.83
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.46	0.40	0.36	0.38	0.33	0.35	0.31	0.33
EPM	Eutrophication potential - marine	kg N eq	0.05	0.04	0.04	0.04	0.03	0.04	0.03	0.03
EPF	Eutrophication potential - freshwater	kg P eq	0.05	0.04	0.04	0.04	0.03	0.04	0.03	0.03
SFP	Smog formation potential	kg O3 eq	14.55	12.45	11.31	15.35	10.11	15.62	13.29	15.89
ADP _f	Abiotic depletion potential - fossil resources	MJ	1962.53	1687.97	1539.56	1468.62	1382.90	1303.98	1168.06	1139.34
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.15E-04	1.07E-04	1.03E-04	1.05E-04	9.91E-05	1.01E-04	9.65E-05	9.77E-05
RPRE	Renewable primary energy used as an energy carrier	MJ	73.15	65.58	61.49	63.68	57.17	60.53	55.62	57.37
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	1924.20	1647.72	1498.27	1674.99	1340.52	1591.92	1385.39	1508.85
NRSF	Non-renewable secondary fuels	MJ	203.09	171.02	153.69	142.16	135.39	121.85	106.89	101.54
SM	Secondary materials	kg	0.00	87.33	134.54	124.45	184.37	165.93	218.33	207.41
FW	Net use of fresh water	m3	2.34	2.21	2.13	2.22	2.06	2.18	2.08	2.14
CCE	Calcination carbon emissions	kg CO2 eq	186.36	156.93	141.03	130.45	124.24	111.82	98.08	93.18
HWD	Hazardous waste disposed	kg	4.92E-03	4.14E-03	3.72E-03	3.82E-03	3.28E-03	3.45E-03	2.98E-03	3.08E-03
NHWD	Non-hazardous waste disposed	kg	2.65	2.36	2.21	2.05	2.04	1.85	1.73	1.65
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 5,000 psi - Non-Air-Entrained

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	5000-00-FA/SL	5000-20-FA	5000-30-FA	5000-30-SL	5000-40-FA	5000-40-SL	5000-50-FA/SL	5000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	27.16	29.80	31.23	30.50	32.74	31.61	33.32	32.73
GWPF	Global warming potential - fossil	kg CO2 eq	27.16	29.80	31.23	30.50	32.74	31.61	33.32	32.73
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.09E-09	1.19E-09	1.25E-09	1.22E-09	1.30E-09	1.26E-09	1.33E-09	1.31E-09
AP	Acidification potential	kg SO2 eq	0.39	0.44	0.47	0.45	0.49	0.47	0.50	0.49
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03
EPM	Eutrophication potential - marine	kg N eq	0.10	0.11	0.12	0.11	0.12	0.12	0.13	0.12
EPF	Eutrophication potential - freshwater	kg P eq	3.24E-05	3.54E-05	3.71E-05	3.63E-05	3.88E-05	3.75E-05	3.95E-05	3.88E-05
SFP	Smog formation potential	kg O3 eq	10.74	12.12	12.87	12.42	13.65	12.98	13.89	13.54
ADP _f	Abiotic depletion potential - fossil resources	MJ	372.34	406.76	425.37	416.19	445.02	430.81	452.93	445.43
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.84E-08	4.10E-08	4.24E-08	4.18E-08	4.39E-08	4.30E-08	4.46E-08	4.41E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	3.35E-03	3.57E-03	3.69E-03	3.65E-03	3.82E-03	3.75E-03	3.89E-03	3.85E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	376.23	410.99	429.78	420.52	449.60	435.28	457.60	450.04
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.06
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Normal-Weight 5,000 psi - Non-Air-Entrained

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	5000-00-FA/SL	5000-20-FA	5000-30-FA	5000-30-SL	5000-40-FA	5000-40-SL	5000-50-FA/SL	5000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 6,000 psi*A1-A3 accumulated results per 1 m3 of fresh concrete*

Ind.	Description	Unit	6000-00-FA/SL	6000-20-FA	6000-30-FA	6000-30-SL	6000-40-FA	6000-40-SL	6000-50-FA/SL	6000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	449.66	391.26	359.69	355.87	326.36	324.61	292.53	293.35
GWPF	Global warming potential - fossil	kg CO2 eq	449.40	391.05	359.51	355.71	326.21	324.48	292.42	293.24
GWPB	Global warming potential - biogenic	kg CO2 eq	0.28	0.24	0.21	0.19	0.18	0.16	0.14	0.13
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	9.72E-06	8.23E-06	7.43E-06	1.01E-05	6.58E-06	1.03E-05	8.67E-06	1.04E-05
AP	Acidification potential	kg SO2 eq	1.29	1.22	1.19	1.40	1.15	1.43	1.34	1.47
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.58	0.51	0.48	0.49	0.45	0.47	0.43	0.44
EPM	Eutrophication potential - marine	kg N eq	0.16	0.17	0.17	0.17	0.18	0.17	0.18	0.17
EPF	Eutrophication potential - freshwater	kg P eq	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04
SFP	Smog formation potential	kg O3 eq	27.40	26.63	26.22	30.09	25.78	30.99	29.47	31.88
ADP _f	Abiotic depletion potential - fossil resources	MJ	2822.05	2571.19	2435.59	2334.27	2292.46	2171.67	2057.74	2009.08
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.99E-04	1.95E-04	1.93E-04	1.88E-04	1.90E-04	1.84E-04	1.83E-04	1.81E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	111.07	104.31	100.65	100.82	96.79	97.40	93.51	93.98
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	2732.05	2476.57	2338.47	2509.95	2192.71	2435.91	2242.78	2361.88
NRSF	Non-renewable secondary fuels	MJ	220.12	185.36	166.58	154.08	146.75	132.07	115.85	110.06
SM	Secondary materials	kg	0.00	94.65	145.82	134.88	199.83	179.84	236.64	224.81
FW	Net use of fresh water	m3	3.22	3.08	3.01	3.09	2.93	3.05	2.95	3.01
CCE	Calcination carbon emissions	kg CO2 eq	201.99	170.09	152.85	141.39	134.66	121.19	106.31	100.99
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
NHWD	Non-hazardous waste disposed	kg	10.07	9.81	9.66	9.42	9.51	9.20	9.12	8.98
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 6,000 psi

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	6000-00-FA/SL	6000-20-FA	6000-30-FA	6000-30-SL	6000-40-FA	6000-40-SL	6000-50-FA/SL	6000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	410.38	349.07	315.92	312.97	280.94	280.50	246.53	248.03
GWPF	Global warming potential - fossil	kg CO2 eq	410.12	348.86	315.75	312.80	280.79	280.37	246.42	247.93
GWPB	Global warming potential - biogenic	kg CO2 eq	0.28	0.23	0.20	0.19	0.18	0.16	0.14	0.13
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	9.49E-06	8.01E-06	7.20E-06	9.91E-06	6.35E-06	1.00E-05	8.45E-06	1.02E-05
AP	Acidification potential	kg SO2 eq	0.84	0.72	0.65	0.88	0.59	0.90	0.76	0.91
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.55	0.48	0.45	0.46	0.41	0.43	0.39	0.40
EPM	Eutrophication potential - marine	kg N eq	0.05	0.05	0.04	0.05	0.04	0.04	0.04	0.04
EPF	Eutrophication potential - freshwater	kg P eq	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04
SFP	Smog formation potential	kg O3 eq	15.61	13.34	12.11	16.49	10.82	16.78	14.26	17.07
ADP _f	Abiotic depletion potential - fossil resources	MJ	2276.71	1987.99	1831.92	1741.40	1667.18	1562.96	1424.49	1384.52
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.97E-04	1.93E-04	1.91E-04	1.86E-04	1.88E-04	1.83E-04	1.81E-04	1.79E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	106.55	99.78	96.12	96.29	92.26	92.87	88.98	89.45
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	2179.99	1886.28	1727.52	1909.90	1559.94	1819.86	1601.97	1729.83
NRSF	Non-renewable secondary fuels	MJ	220.12	185.36	166.58	154.08	146.75	132.07	115.85	110.06
SM	Secondary materials	kg	0.00	94.65	145.82	134.88	199.83	179.84	236.64	224.81
FW	Net use of fresh water	m3	2.41	2.27	2.20	2.28	2.11	2.24	2.13	2.20
CCE	Calcination carbon emissions	kg CO2 eq	201.99	170.09	152.85	141.39	134.66	121.19	106.31	100.99
HWD	Hazardous waste disposed	kg	5.33E-03	4.49E-03	4.04E-03	4.14E-03	3.56E-03	3.74E-03	3.23E-03	3.34E-03
NHWD	Non-hazardous waste disposed	kg	3.78	3.52	3.38	3.13	3.23	2.91	2.83	2.69
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 6,000 psi

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	6000-00-FA/SL	6000-20-FA	6000-30-FA	6000-30-SL	6000-40-FA	6000-40-SL	6000-50-FA/SL	6000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	28.38	31.28	32.86	32.00	34.51	33.21	35.10	34.41
GWPF	Global warming potential - fossil	kg CO2 eq	28.38	31.28	32.86	32.00	34.51	33.21	35.10	34.41
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.14E-09	1.25E-09	1.31E-09	1.28E-09	1.37E-09	1.32E-09	1.40E-09	1.37E-09
AP	Acidification potential	kg SO2 eq	0.41	0.46	0.49	0.48	0.52	0.50	0.53	0.52
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03
EPM	Eutrophication potential - marine	kg N eq	0.10	0.12	0.12	0.12	0.13	0.12	0.13	0.13
EPF	Eutrophication potential - freshwater	kg P eq	3.39E-05	3.72E-05	3.90E-05	3.80E-05	4.09E-05	3.94E-05	4.15E-05	4.08E-05
SFP	Smog formation potential	kg O3 eq	11.30	12.81	13.62	13.12	14.48	13.72	14.72	14.33
ADP _f	Abiotic depletion potential - fossil resources	MJ	388.64	426.51	446.98	436.18	468.59	452.02	476.55	467.87
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.99E-08	4.28E-08	4.43E-08	4.36E-08	4.59E-08	4.48E-08	4.67E-08	4.61E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	3.48E-03	3.73E-03	3.86E-03	3.80E-03	4.01E-03	3.91E-03	4.07E-03	4.02E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	392.70	430.93	451.60	440.70	473.41	456.70	481.45	472.69
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 6,000 psi

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	6000-00-FA/SL	6000-20-FA	6000-30-FA	6000-30-SL	6000-40-FA	6000-40-SL	6000-50-FA/SL	6000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 8,000 psi

A1-A3 accumulated results per 1 m3 of fresh concrete

Ind.	Description	Unit	8000-00-FA/SL	8000-20-FA	8000-30-FA	8000-30-SL	8000-40-FA	8000-40-SL	8000-50-FA/SL	8000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	518.34	450.67	414.10	409.57	375.49	373.32	336.18	337.06
GWPF	Global warming potential - fossil	kg CO2 eq	518.05	450.44	413.90	409.39	375.33	373.17	336.07	336.95
GWPB	Global warming potential - biogenic	kg CO2 eq	0.33	0.27	0.24	0.22	0.20	0.18	0.16	0.15
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.12E-05	9.49E-06	8.56E-06	1.17E-05	7.58E-06	1.19E-05	1.00E-05	1.20E-05
AP	Acidification potential	kg SO2 eq	1.46	1.38	1.34	1.58	1.29	1.62	1.51	1.66
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.68	0.61	0.57	0.58	0.53	0.55	0.51	0.52
EPM	Eutrophication potential - marine	kg N eq	0.18	0.19	0.19	0.19	0.20	0.19	0.20	0.19
EPF	Eutrophication potential - freshwater	kg P eq	0.06	0.05	0.05	0.05	0.04	0.05	0.04	0.04
SFP	Smog formation potential	kg O3 eq	30.61	29.71	29.22	33.73	28.71	34.77	32.99	35.81
ADP _f	Abiotic depletion potential - fossil resources	MJ	3246.42	2957.41	2801.19	2680.72	2636.29	2492.16	2361.94	2303.59
ADP _e	Abiotic depletion potential - elements	kg Sb eq	2.54E-04	2.51E-04	2.49E-04	2.42E-04	2.47E-04	2.37E-04	2.37E-04	2.33E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	136.98	129.61	125.62	125.09	121.41	121.12	117.09	117.16
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	3123.17	2827.85	2668.22	2865.58	2499.72	2779.72	2556.71	2693.86
NRSF	Non-renewable secondary fuels	MJ	255.27	214.96	193.18	178.69	170.18	153.16	134.35	127.63
SM	Secondary materials	kg	0.00	109.77	169.11	156.42	231.74	208.56	274.43	260.71
FW	Net use of fresh water	m3	3.27	3.11	3.02	3.13	2.93	3.08	2.96	3.03
CCE	Calcination carbon emissions	kg CO2 eq	234.24	197.26	177.27	163.97	156.16	140.55	123.29	117.12
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
NHWD	Non-hazardous waste disposed	kg	10.97	10.68	10.52	10.21	10.36	9.96	9.89	9.71
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 8,000 psi

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	8000-00-FA/SL	8000-20-FA	8000-30-FA	8000-30-SL	8000-40-FA	8000-40-SL	8000-50-FA/SL	8000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	476.92	405.92	367.54	363.95	327.02	326.30	287.01	288.64
GWPF	Global warming potential - fossil	kg CO2 eq	476.63	405.69	367.34	363.77	326.86	326.15	286.89	288.53
GWPB	Global warming potential - biogenic	kg CO2 eq	0.32	0.26	0.23	0.22	0.20	0.18	0.15	0.14
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.10E-05	9.27E-06	8.33E-06	1.15E-05	7.35E-06	1.16E-05	9.78E-06	1.18E-05
AP	Acidification potential	kg SO2 eq	0.97	0.83	0.75	1.02	0.67	1.03	0.88	1.05
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.65	0.57	0.53	0.55	0.49	0.52	0.47	0.48
EPM	Eutrophication potential - marine	kg N eq	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05
EPF	Eutrophication potential - freshwater	kg P eq	0.06	0.05	0.05	0.05	0.04	0.05	0.04	0.04
SFP	Smog formation potential	kg O3 eq	17.79	15.15	13.73	18.81	12.22	19.14	16.22	19.48
ADP _f	Abiotic depletion potential - fossil resources	MJ	2672.90	2340.44	2160.73	2052.07	1971.04	1845.13	1686.94	1638.19
ADP _e	Abiotic depletion potential - elements	kg Sb eq	2.53E-04	2.49E-04	2.47E-04	2.40E-04	2.45E-04	2.36E-04	2.35E-04	2.31E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	132.46	125.08	121.09	120.56	116.88	116.60	112.56	112.63
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	2542.65	2203.46	2020.12	2229.41	1826.59	2124.99	1873.73	2020.58
NRSF	Non-renewable secondary fuels	MJ	255.27	214.96	193.18	178.69	170.18	153.16	134.35	127.63
SM	Secondary materials	kg	0.00	109.77	169.11	156.42	231.74	208.56	274.43	260.71
FW	Net use of fresh water	m3	2.47	2.30	2.21	2.31	2.11	2.26	2.14	2.21
CCE	Calcination carbon emissions	kg CO2 eq	234.24	197.26	177.27	163.97	156.16	140.55	123.29	117.12
HWD	Hazardous waste disposed	kg	6.19E-03	5.21E-03	4.68E-03	4.80E-03	4.13E-03	4.34E-03	3.75E-03	3.88E-03
NHWD	Non-hazardous waste disposed	kg	4.68	4.39	4.24	3.93	4.07	3.67	3.60	3.42
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 8,000 psi

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	8000-00-FA/SL	8000-20-FA	8000-30-FA	8000-30-SL	8000-40-FA	8000-40-SL	8000-50-FA/SL	8000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	30.51	33.85	35.65	34.71	37.56	36.11	38.27	37.51
GWPF	Global warming potential - fossil	kg CO2 eq	30.51	33.85	35.65	34.71	37.56	36.11	38.27	37.51
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.22E-09	1.35E-09	1.42E-09	1.38E-09	1.49E-09	1.44E-09	1.52E-09	1.49E-09
AP	Acidification potential	kg SO2 eq	0.45	0.51	0.54	0.52	0.58	0.55	0.59	0.57
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
EPM	Eutrophication potential - marine	kg N eq	0.11	0.13	0.14	0.13	0.14	0.14	0.15	0.14
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-05	4.01E-05	4.22E-05	4.11E-05	4.43E-05	4.27E-05	4.52E-05	4.44E-05
SFP	Smog formation potential	kg O3 eq	12.33	14.07	15.01	14.44	16.00	15.14	16.29	15.84
ADP _f	Abiotic depletion potential - fossil resources	MJ	416.83	460.28	483.77	471.95	508.56	490.33	518.31	508.70
ADP _e	Abiotic depletion potential - elements	kg Sb eq	4.24E-08	4.56E-08	4.74E-08	4.67E-08	4.93E-08	4.81E-08	5.02E-08	4.95E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	3.69E-03	3.98E-03	4.13E-03	4.07E-03	4.30E-03	4.19E-03	4.37E-03	4.32E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	421.16	465.03	488.74	476.82	513.77	495.38	523.62	513.93
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 8,000 psi

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	8000-00-FA/SL	8000-20-FA	8000-30-FA	8000-30-SL	8000-40-FA	8000-40-SL	8000-50-FA/SL	8000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 10,000 psi*A1-A3 accumulated results per 1 m3 of fresh concrete*

Ind.	Description	Unit	10000-00-FA/SL	10000-20-FA	10000-30-FA	10000-30-SL	10000-40-FA	10000-40-SL	10000-50-FA/SL	10000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	656.33	569.36	522.35	516.53	472.72	469.93	422.20	423.32
GWPF	Global warming potential - fossil	kg CO2 eq	655.96	569.07	522.09	516.29	472.51	469.74	422.04	423.18
GWPB	Global warming potential - biogenic	kg CO2 eq	0.42	0.34	0.30	0.28	0.26	0.24	0.20	0.19
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.43E-05	1.21E-05	1.09E-05	1.49E-05	9.64E-06	1.52E-05	1.28E-05	1.54E-05
AP	Acidification potential	kg SO2 eq	1.79	1.69	1.63	1.95	1.58	2.00	1.86	2.05
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.86	0.77	0.72	0.74	0.67	0.70	0.64	0.66
EPM	Eutrophication potential - marine	kg N eq	0.22	0.23	0.23	0.23	0.24	0.23	0.24	0.23
EPF	Eutrophication potential - freshwater	kg P eq	0.08	0.07	0.06	0.06	0.05	0.06	0.05	0.05
SFP	Smog formation potential	kg O3 eq	37.23	36.07	35.45	41.24	34.78	42.58	40.29	43.91
ADP _f	Abiotic depletion potential - fossil resources	MJ	4030.92	3659.44	3458.64	3303.79	3246.68	3061.41	2894.03	2819.03
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.27E-04	3.22E-04	3.19E-04	3.10E-04	3.17E-04	3.04E-04	3.04E-04	2.99E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	174.75	165.26	160.14	159.46	154.73	154.36	149.17	149.26
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	3870.98	3491.38	3286.20	3539.89	3069.61	3429.52	3142.87	3319.16
NRSF	Non-renewable secondary fuels	MJ	328.12	276.31	248.31	229.68	218.75	196.87	172.69	164.06
SM	Secondary materials	kg	0.00	141.10	217.37	201.06	297.87	268.09	352.74	335.11
FW	Net use of fresh water	m3	3.37	3.16	3.04	3.18	2.92	3.12	2.96	3.05
CCE	Calcination carbon emissions	kg CO2 eq	301.09	253.55	227.85	210.76	200.73	180.66	158.47	150.55
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
NHWD	Non-hazardous waste disposed	kg	12.30	11.93	11.73	11.33	11.52	11.01	10.91	10.69
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 10,000 psi

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	10000-00-FA/SL	10000-20-FA	10000-30-FA	10000-30-SL	10000-40-FA	10000-40-SL	10000-50-FA/SL	10000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	610.59	519.33	469.99	465.39	417.92	416.99	366.48	368.59
GWPF	Global warming potential - fossil	kg CO2 eq	610.22	519.03	469.74	465.16	417.71	416.80	366.33	368.44
GWPB	Global warming potential - biogenic	kg CO2 eq	0.41	0.34	0.30	0.28	0.26	0.23	0.20	0.19
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.41E-05	1.19E-05	1.07E-05	1.47E-05	9.42E-06	1.49E-05	1.25E-05	1.51E-05
AP	Acidification potential	kg SO2 eq	1.22	1.05	0.95	1.29	0.85	1.31	1.12	1.33
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.83	0.73	0.68	0.70	0.63	0.66	0.60	0.61
EPM	Eutrophication potential - marine	kg N eq	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.06
EPF	Eutrophication potential - freshwater	kg P eq	0.08	0.07	0.06	0.06	0.05	0.06	0.05	0.05
SFP	Smog formation potential	kg O3 eq	22.31	18.92	17.08	23.61	15.15	24.04	20.28	24.48
ADP _f	Abiotic depletion potential - fossil resources	MJ	3400.44	2973.10	2742.11	2602.45	2498.28	2336.45	2133.11	2070.45
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.25E-04	3.20E-04	3.18E-04	3.08E-04	3.15E-04	3.03E-04	3.03E-04	2.97E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	170.22	160.74	155.61	154.93	150.20	149.83	144.64	144.73
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	3232.95	2796.97	2561.30	2830.31	2312.54	2696.10	2373.14	2561.89
NRSF	Non-renewable secondary fuels	MJ	328.12	276.31	248.31	229.68	218.75	196.87	172.69	164.06
SM	Secondary materials	kg	0.00	141.10	217.37	201.06	297.87	268.09	352.74	335.11
FW	Net use of fresh water	m3	2.55	2.33	2.22	2.36	2.10	2.29	2.13	2.23
CCE	Calcination carbon emissions	kg CO2 eq	301.09	253.55	227.85	210.76	200.73	180.66	158.47	150.55
HWD	Hazardous waste disposed	kg	7.95E-03	6.70E-03	6.02E-03	6.17E-03	5.30E-03	5.58E-03	4.82E-03	4.98E-03
NHWD	Non-hazardous waste disposed	kg	6.02	5.64	5.44	5.05	5.23	4.72	4.62	4.40
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 10,000 psi

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	10000-00-FA/SL	10000-20-FA	10000-30-FA	10000-30-SL	10000-40-FA	10000-40-SL	10000-50-FA/SL	10000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	34.83	39.13	41.44	40.23	43.89	42.03	44.81	43.83
GWPF	Global warming potential - fossil	kg CO2 eq	34.83	39.13	41.44	40.23	43.89	42.03	44.81	43.83
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.39E-09	1.55E-09	1.64E-09	1.60E-09	1.73E-09	1.67E-09	1.77E-09	1.74E-09
AP	Acidification potential	kg SO2 eq	0.52	0.60	0.64	0.62	0.69	0.65	0.70	0.68
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.03	0.03	0.04	0.03	0.04	0.04	0.04	0.04
EPM	Eutrophication potential - marine	kg N eq	0.13	0.15	0.16	0.15	0.17	0.16	0.17	0.17
EPF	Eutrophication potential - freshwater	kg P eq	4.13E-05	4.62E-05	4.88E-05	4.75E-05	5.16E-05	4.96E-05	5.27E-05	5.16E-05
SFP	Smog formation potential	kg O3 eq	14.44	16.67	17.88	17.15	19.15	18.05	19.52	18.95
ADP _f	Abiotic depletion potential - fossil resources	MJ	473.79	529.64	559.83	544.64	591.70	568.26	604.23	591.88
ADP _e	Abiotic depletion potential - elements	kg Sb eq	4.73E-08	5.15E-08	5.38E-08	5.28E-08	5.62E-08	5.47E-08	5.73E-08	5.65E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	4.12E-03	4.49E-03	4.69E-03	4.61E-03	4.90E-03	4.77E-03	5.00E-03	4.93E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	478.68	535.06	565.54	550.22	597.72	574.07	610.37	597.92
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 10,000 psi

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	10000-00-FA/SL	10000-20-FA	10000-30-FA	10000-30-SL	10000-40-FA	10000-40-SL	10000-50-FA/SL	10000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 12,000 psi*A1-A3 accumulated results per 1 m3 of fresh concrete*

Ind.	Description	Unit	12000-00-FA/SL	12000-20-FA	12000-30-FA	12000-30-SL	12000-40-FA	12000-40-SL	12000-50-FA/SL	12000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	745.16	645.75	592.02	585.37	535.31	532.11	477.56	478.85
GWPF	Global warming potential - fossil	kg CO2 eq	744.74	645.42	591.73	585.11	535.07	531.90	477.39	478.69
GWPB	Global warming potential - biogenic	kg CO2 eq	0.48	0.39	0.35	0.32	0.30	0.27	0.23	0.22
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.63E-05	1.38E-05	1.24E-05	1.70E-05	1.10E-05	1.73E-05	1.45E-05	1.75E-05
AP	Acidification potential	kg SO2 eq	2.00	1.89	1.82	2.18	1.76	2.24	2.08	2.31
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.98	0.87	0.82	0.84	0.76	0.79	0.73	0.74
EPM	Eutrophication potential - marine	kg N eq	0.24	0.25	0.26	0.25	0.26	0.26	0.26	0.26
EPF	Eutrophication potential - freshwater	kg P eq	0.09	0.08	0.07	0.07	0.06	0.07	0.06	0.06
SFP	Smog formation potential	kg O3 eq	41.50	40.17	39.45	46.08	38.70	47.60	44.99	49.13
ADP _f	Abiotic depletion potential - fossil resources	MJ	4535.90	4111.33	3881.83	3704.85	3639.58	3427.83	3236.53	3150.81
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.73E-04	3.67E-04	3.65E-04	3.54E-04	3.61E-04	3.48E-04	3.47E-04	3.41E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	199.05	188.22	182.36	181.58	176.17	175.75	169.82	169.93
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	4352.34	3918.49	3683.98	3973.93	3436.44	3847.79	3520.17	3721.65
NRSF	Non-renewable secondary fuels	MJ	375.01	315.80	283.79	262.51	250.01	225.01	197.37	187.51
SM	Secondary materials	kg	0.00	161.26	248.43	229.80	340.44	306.40	403.16	383.00
FW	Net use of fresh water	m3	3.42	3.19	3.06	3.21	2.92	3.14	2.96	3.07
CCE	Calcination carbon emissions	kg CO2 eq	344.12	289.79	260.42	240.89	229.41	206.47	181.12	172.06
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
NHWD	Non-hazardous waste disposed	kg	13.16	12.74	12.51	12.06	12.27	11.69	11.57	11.32
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 12,000 psi

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	12000-00-FA/SL	12000-20-FA	12000-30-FA	12000-30-SL	12000-40-FA	12000-40-SL	12000-50-FA/SL	12000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	696.64	592.33	535.95	530.68	476.43	475.36	417.64	420.05
GWPF	Global warming potential - fossil	kg CO2 eq	696.21	591.99	535.66	530.41	476.19	475.15	417.47	419.88
GWPB	Global warming potential - biogenic	kg CO2 eq	0.47	0.39	0.34	0.32	0.29	0.26	0.22	0.21
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.61E-05	1.36E-05	1.22E-05	1.68E-05	1.07E-05	1.70E-05	1.43E-05	1.73E-05
AP	Acidification potential	kg SO2 eq	1.39	1.19	1.08	1.46	0.96	1.49	1.27	1.51
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.94	0.83	0.77	0.79	0.71	0.75	0.68	0.70
EPM	Eutrophication potential - marine	kg N eq	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.07
EPF	Eutrophication potential - freshwater	kg P eq	0.09	0.08	0.07	0.07	0.06	0.07	0.06	0.06
SFP	Smog formation potential	kg O3 eq	25.21	21.34	19.24	26.70	17.03	27.20	22.90	27.69
ADP _f	Abiotic depletion potential - fossil resources	MJ	3868.76	3380.35	3116.34	2956.72	2837.67	2652.71	2420.31	2348.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.71E-04	3.66E-04	3.63E-04	3.52E-04	3.60E-04	3.46E-04	3.46E-04	3.40E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	194.53	183.69	177.83	177.05	171.65	171.22	165.29	165.40
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	3677.28	3179.00	2909.65	3217.11	2625.34	3063.71	2694.60	2910.32
NRSF	Non-renewable secondary fuels	MJ	375.01	315.80	283.79	262.51	250.01	225.01	197.37	187.51
SM	Secondary materials	kg	0.00	161.26	248.43	229.80	340.44	306.40	403.16	383.00
FW	Net use of fresh water	m3	2.61	2.36	2.23	2.38	2.08	2.31	2.12	2.23
CCE	Calcination carbon emissions	kg CO2 eq	344.12	289.79	260.42	240.89	229.41	206.47	181.12	172.06
HWD	Hazardous waste disposed	kg	9.09E-03	7.65E-03	6.88E-03	7.05E-03	6.06E-03	6.37E-03	5.51E-03	5.69E-03
NHWD	Non-hazardous waste disposed	kg	6.88	6.45	6.22	5.77	5.98	5.40	5.28	5.03
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 12,000 psi*A2 - Transportation results per 1 m3 of fresh concrete*

Ind.	Description	Unit	12000-00-FA/SL	12000-20-FA	12000-30-FA	12000-30-SL	12000-40-FA	12000-40-SL	12000-50-FA/SL	12000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	37.62	42.52	45.17	43.79	47.97	45.84	49.01	47.90
GWPF	Global warming potential - fossil	kg CO2 eq	37.62	42.52	45.17	43.79	47.97	45.84	49.01	47.90
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	1.50E-09	1.68E-09	1.79E-09	1.73E-09	1.89E-09	1.81E-09	1.93E-09	1.89E-09
AP	Acidification potential	kg SO2 eq	0.57	0.66	0.71	0.68	0.76	0.72	0.77	0.75
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPM	Eutrophication potential - marine	kg N eq	0.14	0.16	0.18	0.17	0.19	0.18	0.19	0.19
EPF	Eutrophication potential - freshwater	kg P eq	4.45E-05	5.01E-05	5.31E-05	5.16E-05	5.63E-05	5.39E-05	5.75E-05	5.63E-05
SFP	Smog formation potential	kg O3 eq	15.80	18.35	19.73	18.89	21.18	19.92	21.61	20.95
ADP _f	Abiotic depletion potential - fossil resources	MJ	510.45	574.29	608.79	591.43	645.22	618.43	659.53	645.42
ADP _e	Abiotic depletion potential - elements	kg Sb eq	5.05E-08	5.53E-08	5.79E-08	5.68E-08	6.06E-08	5.89E-08	6.20E-08	6.10E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	4.40E-03	4.82E-03	5.05E-03	4.95E-03	5.29E-03	5.14E-03	5.40E-03	5.32E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	515.70	580.14	614.98	597.47	651.75	624.72	666.21	651.98
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.07	0.08	0.08	0.08	0.09	0.09	0.09	0.09
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

High-Strength 12,000 psi

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	12000-00-FA/SL	12000-20-FA	12000-30-FA	12000-30-SL	12000-40-FA	12000-40-SL	12000-50-FA/SL	12000-50-SL
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	-	-	-	-	-	-	-	-
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 3,000 psi - Air-Entrained

A1-A3 accumulated results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-3000-00-FA/SL-AE	LW-3000-20-FA-AE	LW-3000-30-FA-AE	LW-3000-30-SL-AE	LW-3000-40-FA-AE	LW-3000-40-SL-AE	LW-3000-50-FA/SL-AE	LW-3000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	519.89	450.84	413.57	441.88	379.06	419.26	375.33	396.63
GWPF	Global warming potential - fossil	kg CO2 eq	519.69	450.67	413.42	441.75	378.94	419.14	375.24	396.54
GWPB	Global warming potential - biogenic	kg CO2 eq	0.20	0.17	0.15	0.14	0.13	0.12	0.10	0.09
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
ODP	Ozone depletion potential	kg CFC-11 eq	7.71E-06	6.56E-06	5.93E-06	7.99E-06	5.29E-06	8.09E-06	6.86E-06	8.19E-06
AP	Acidification potential	kg SO2 eq	2.37	2.13	2.00	2.38	1.90	2.40	2.18	2.43
EPT	Eutrophication potential - total (supplemental)	kg N eq	1.05	0.91	0.83	0.95	0.77	0.93	0.83	0.91
EPM	Eutrophication potential - marine	kg N eq	0.18	0.18	0.18	0.19	0.18	0.19	0.18	0.19
EPF	Eutrophication potential - freshwater	kg P eq	0.12	0.10	0.10	0.11	0.09	0.11	0.10	0.10
SFP	Smog formation potential	kg O3 eq	34.18	31.90	30.66	35.47	29.68	36.12	33.68	36.77
ADP _f	Abiotic depletion potential - fossil resources	MJ	3731.76	3306.13	3076.54	3288.48	2877.31	3170.79	2898.39	3053.10
ADP _e	Abiotic depletion potential - elements	kg Sb eq	4.27E-04	3.71E-04	3.41E-04	4.00E-04	3.18E-04	3.98E-04	3.55E-04	3.95E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	314.04	272.07	249.45	292.92	232.12	290.45	258.77	287.97
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	3891.44	3442.62	3200.55	3631.67	2992.33	3578.08	3233.78	3524.49
NRSF	Non-renewable secondary fuels	MJ	159.31	134.16	120.56	111.52	106.21	95.59	83.85	79.65
SM	Secondary materials	kg	0.00	68.51	105.54	97.62	144.62	130.16	171.27	162.70
FW	Net use of fresh water	m3	2.16	2.17	2.18	2.12	2.16	2.09	2.10	2.06
CCE	Calcination carbon emissions	kg CO2 eq	146.19	123.10	110.63	102.33	97.46	87.71	76.94	73.09
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.15	0.16	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	8.09	7.85	7.72	7.62	7.59	7.46	7.36	7.31
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 3,000 psi - Air-Entrained

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-3000-00-FA/SL-AE	LW-3000-20-FA-AE	LW-3000-30-FA-AE	LW-3000-30-SL-AE	LW-3000-40-FA-AE	LW-3000-40-SL-AE	LW-3000-50-FA/SL-AE	LW-3000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	487.58	416.11	377.53	406.82	341.72	383.32	337.80	359.82
GWPF	Global warming potential - fossil	kg CO2 eq	487.38	415.94	377.39	406.68	341.59	383.20	337.70	359.73
GWPB	Global warming potential - biogenic	kg CO2 eq	0.20	0.16	0.14	0.13	0.12	0.11	0.09	0.09
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
ODP	Ozone depletion potential	kg CFC-11 eq	7.49E-06	6.33E-06	5.71E-06	7.76E-06	5.06E-06	7.86E-06	6.64E-06	7.96E-06
AP	Acidification potential	kg SO2 eq	2.02	1.74	1.59	1.98	1.46	1.99	1.74	2.00
EPT	Eutrophication potential - total (supplemental)	kg N eq	1.02	0.88	0.81	0.93	0.74	0.90	0.80	0.88
EPM	Eutrophication potential - marine	kg N eq	0.10	0.09	0.08	0.09	0.07	0.09	0.08	0.09
EPF	Eutrophication potential - freshwater	kg P eq	0.12	0.10	0.10	0.11	0.09	0.11	0.09	0.10
SFP	Smog formation potential	kg O3 eq	25.24	21.76	19.88	25.17	18.24	25.38	22.14	25.59
ADP _f	Abiotic depletion potential - fossil resources	MJ	3281.58	2824.11	2577.32	2802.02	2360.83	2672.87	2379.41	2543.71
ADP _e	Abiotic depletion potential - elements	kg Sb eq	4.25E-04	3.69E-04	3.39E-04	3.99E-04	3.16E-04	3.96E-04	3.53E-04	3.93E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	309.52	267.54	244.92	288.40	227.60	285.92	254.25	283.45
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	3435.53	2954.56	2695.12	3139.12	2469.47	3073.95	2708.40	3008.78
NRSF	Non-renewable secondary fuels	MJ	159.31	134.16	120.56	111.52	106.21	95.59	83.85	79.65
SM	Secondary materials	kg	0.00	68.51	105.54	97.62	144.62	130.16	171.27	162.70
FW	Net use of fresh water	m3	1.37	1.38	1.38	1.32	1.37	1.29	1.30	1.26
CCE	Calcination carbon emissions	kg CO2 eq	146.19	123.10	110.63	102.33	97.46	87.71	76.94	73.09
HWD	Hazardous waste disposed	kg	3.89E-03	3.28E-03	2.95E-03	3.03E-03	2.61E-03	2.74E-03	2.37E-03	2.45E-03
NHWD	Non-hazardous waste disposed	kg	1.80	1.56	1.43	1.33	1.30	1.17	1.07	1.02
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 3,000 psi - Air-Entrained

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-3000-00-FA/SL-AE	LW-3000-20-FA-AE	LW-3000-30-FA-AE	LW-3000-30-SL-AE	LW-3000-40-FA-AE	LW-3000-40-SL-AE	LW-3000-50-FA/SL-AE	LW-3000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	21.40	23.82	25.13	24.16	26.44	25.03	26.63	25.90
GWPF	Global warming potential - fossil	kg CO2 eq	21.40	23.82	25.13	24.16	26.44	25.03	26.63	25.90
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ODP	Ozone depletion potential	kg CFC-11 eq	8.60E-10	9.53E-10	1.00E-09	9.66E-10	1.05E-09	1.00E-09	1.06E-09	1.03E-09
AP	Acidification potential	kg SO2 eq	0.31	0.35	0.37	0.36	0.40	0.37	0.40	0.39
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
EPM	Eutrophication potential - marine	kg N eq	0.08	0.09	0.09	0.09	0.10	0.09	0.10	0.10
EPF	Eutrophication potential - freshwater	kg P eq	2.56E-05	2.84E-05	2.99E-05	2.87E-05	3.14E-05	2.97E-05	3.16E-05	3.07E-05
SFP	Smog formation potential	kg O3 eq	8.46	9.65	10.30	9.82	10.95	10.26	11.05	10.69
ADP _f	Abiotic depletion potential - fossil resources	MJ	293.49	325.33	342.52	329.76	359.79	341.23	362.29	352.70
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.03E-08	3.29E-08	3.43E-08	3.32E-08	3.56E-08	3.41E-08	3.58E-08	3.50E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	2.64E-03	2.87E-03	2.99E-03	2.89E-03	3.11E-03	2.97E-03	3.12E-03	3.05E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	296.56	328.71	346.08	333.19	363.50	344.77	366.03	356.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 3,000 psi - Air-Entrained

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-3000-00-FA/SL-AE	LW-3000-20-FA-AE	LW-3000-30-FA-AE	LW-3000-30-SL-AE	LW-3000-40-FA-AE	LW-3000-40-SL-AE	LW-3000-50-FA/SL-AE	LW-3000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 4,000 psi - Air-Entrained

A1-A3 accumulated results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-4000-00-FA/SL-AE	LW-4000-20-FA-AE	LW-4000-30-FA-AE	LW-4000-30-SL-AE	LW-4000-40-FA-AE	LW-4000-40-SL-AE	LW-4000-50-FA/SL-AE	LW-4000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	601.81	523.41	477.97	511.81	434.95	483.16	428.89	450.46
GWPF	Global warming potential - fossil	kg CO2 eq	601.55	523.20	477.78	511.64	434.79	483.02	428.76	450.34
GWPB	Global warming potential - biogenic	kg CO2 eq	0.26	0.21	0.19	0.17	0.16	0.14	0.12	0.12
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
ODP	Ozone depletion potential	kg CFC-11 eq	9.53E-06	8.10E-06	7.31E-06	9.90E-06	6.50E-06	1.00E-05	8.49E-06	1.01E-05
AP	Acidification potential	kg SO2 eq	2.59	2.35	2.20	2.66	2.07	2.69	2.42	2.69
EPT	Eutrophication potential - total (supplemental)	kg N eq	1.15	1.00	0.91	1.06	0.84	1.03	0.91	0.99
EPM	Eutrophication potential - marine	kg N eq	0.20	0.20	0.20	0.21	0.20	0.21	0.21	0.21
EPF	Eutrophication potential - freshwater	kg P eq	0.13	0.12	0.10	0.12	0.10	0.12	0.10	0.11
SFP	Smog formation potential	kg O3 eq	38.28	35.97	34.53	40.48	33.32	41.30	38.30	41.86
ADP _f	Abiotic depletion potential - fossil resources	MJ	4170.95	3712.51	3437.40	3687.84	3191.11	3538.83	3205.87	3353.73
ADP _e	Abiotic depletion potential - elements	kg Sb eq	4.53E-04	3.98E-04	3.64E-04	4.35E-04	3.36E-04	4.31E-04	3.80E-04	4.21E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	332.60	291.67	265.40	317.72	244.37	314.59	276.30	305.98
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	4330.87	3850.90	3561.49	4087.70	3304.40	4019.85	3597.02	3912.40
NRSF	Non-renewable secondary fuels	MJ	201.71	169.86	152.64	141.20	134.47	121.02	106.16	100.85
SM	Secondary materials	kg	0.00	86.74	133.62	123.60	183.11	164.80	216.85	206.00
FW	Net use of fresh water	m3	2.19	2.16	2.16	2.09	2.14	2.05	2.06	2.03
CCE	Calcination carbon emissions	kg CO2 eq	185.09	155.87	140.07	129.57	123.40	111.06	97.42	92.55
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
NHWD	Non-hazardous waste disposed	kg	8.57	8.27	8.10	7.97	7.93	7.77	7.64	7.58
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 4,000 psi - Air-Entrained

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-4000-00-FA/SL-AE	LW-4000-20-FA-AE	LW-4000-30-FA-AE	LW-4000-30-SL-AE	LW-4000-40-FA-AE	LW-4000-40-SL-AE	LW-4000-50-FA/SL-AE	LW-4000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	567.09	485.75	438.67	473.72	394.00	443.96	387.68	410.10
GWPF	Global warming potential - fossil	kg CO2 eq	566.83	485.53	438.48	473.54	393.84	443.82	387.56	409.99
GWPB	Global warming potential - biogenic	kg CO2 eq	0.25	0.21	0.18	0.17	0.16	0.14	0.12	0.11
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
ODP	Ozone depletion potential	kg CFC-11 eq	9.31E-06	7.87E-06	7.09E-06	9.68E-06	6.27E-06	9.81E-06	8.26E-06	9.92E-06
AP	Acidification potential	kg SO2 eq	2.19	1.91	1.73	2.20	1.57	2.22	1.92	2.20
EPT	Eutrophication potential - total (supplemental)	kg N eq	1.12	0.97	0.88	1.03	0.81	1.00	0.88	0.96
EPM	Eutrophication potential - marine	kg N eq	0.11	0.10	0.09	0.10	0.08	0.10	0.09	0.10
EPF	Eutrophication potential - freshwater	kg P eq	0.13	0.11	0.10	0.12	0.09	0.12	0.10	0.11
SFP	Smog formation potential	kg O3 eq	28.14	24.36	22.11	28.66	20.07	28.92	24.92	28.91
ADP _f	Abiotic depletion potential - fossil resources	MJ	3689.11	3192.03	2895.46	3161.69	2627.44	2998.16	2638.79	2797.79
ADP _e	Abiotic depletion potential - elements	kg Sb eq	4.51E-04	3.97E-04	3.62E-04	4.33E-04	3.34E-04	4.30E-04	3.79E-04	4.19E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	328.07	287.14	260.87	313.19	239.84	310.06	271.77	301.45
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	3842.99	3324.00	3012.93	3555.09	2733.90	3472.57	3023.07	3349.70
NRSF	Non-renewable secondary fuels	MJ	201.71	169.86	152.64	141.20	134.47	121.02	106.16	100.85
SM	Secondary materials	kg	0.00	86.74	133.62	123.60	183.11	164.80	216.85	206.00
FW	Net use of fresh water	m3	1.39	1.36	1.36	1.29	1.33	1.25	1.25	1.23
CCE	Calcination carbon emissions	kg CO2 eq	185.09	155.87	140.07	129.57	123.40	111.06	97.42	92.55
HWD	Hazardous waste disposed	kg	4.93E-03	4.16E-03	3.74E-03	3.83E-03	3.30E-03	3.47E-03	3.00E-03	3.10E-03
NHWD	Non-hazardous waste disposed	kg	2.28	1.98	1.81	1.68	1.64	1.49	1.35	1.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 4,000 psi - Air-Entrained

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-4000-00-FA/SL-AE	LW-4000-20-FA-AE	LW-4000-30-FA-AE	LW-4000-30-SL-AE	LW-4000-40-FA-AE	LW-4000-40-SL-AE	LW-4000-50-FA/SL-AE	LW-4000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	23.81	26.76	28.39	27.19	30.04	28.29	30.30	29.45
GWPF	Global warming potential - fossil	kg CO2 eq	23.81	26.76	28.39	27.19	30.04	28.29	30.30	29.45
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ODP	Ozone depletion potential	kg CFC-11 eq	9.53E-10	1.07E-09	1.13E-09	1.08E-09	1.19E-09	1.13E-09	1.20E-09	1.17E-09
AP	Acidification potential	kg SO2 eq	0.35	0.40	0.43	0.41	0.46	0.43	0.47	0.45
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.03
EPM	Eutrophication potential - marine	kg N eq	0.09	0.10	0.11	0.10	0.12	0.11	0.12	0.11
EPF	Eutrophication potential - freshwater	kg P eq	2.83E-05	3.17E-05	3.36E-05	3.22E-05	3.55E-05	3.35E-05	3.58E-05	3.48E-05
SFP	Smog formation potential	kg O3 eq	9.65	11.12	11.93	11.34	12.76	11.89	12.89	12.46
ADP _f	Abiotic depletion potential - fossil resources	MJ	325.15	363.79	385.24	369.45	406.97	383.97	410.39	399.24
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.30E-08	3.61E-08	3.78E-08	3.65E-08	3.95E-08	3.76E-08	3.97E-08	3.88E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	2.88E-03	3.14E-03	3.30E-03	3.18E-03	3.45E-03	3.28E-03	3.46E-03	3.39E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	328.52	367.54	389.20	373.26	411.14	387.92	414.59	403.34
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.05	0.05	0.06	0.05	0.06	0.05	0.06	0.06
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 4,000 psi - Air-Entrained

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-4000-00-FA/SL-AE	LW-4000-20-FA-AE	LW-4000-30-FA-AE	LW-4000-30-SL-AE	LW-4000-40-FA-AE	LW-4000-40-SL-AE	LW-4000-50-FA/SL-AE	LW-4000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 5,000 psi - Air-Entrained

A1-A3 accumulated results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-5000-00-FA/SL-AE	LW-5000-20-FA-AE	LW-5000-30-FA-AE	LW-5000-30-SL-AE	LW-5000-40-FA-AE	LW-5000-40-SL-AE	LW-5000-50-FA/SL-AE	LW-5000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	674.76	582.71	529.12	566.36	479.75	533.61	471.17	494.77
GWPF	Global warming potential - fossil	kg CO2 eq	674.48	582.48	528.92	566.18	479.58	533.45	471.04	494.65
GWPB	Global warming potential - biogenic	kg CO2 eq	0.29	0.23	0.21	0.19	0.18	0.16	0.13	0.13
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
ODP	Ozone depletion potential	kg CFC-11 eq	1.08E-05	9.17E-06	8.26E-06	1.12E-05	7.33E-06	1.14E-05	9.60E-06	1.15E-05
AP	Acidification potential	kg SO2 eq	2.84	2.55	2.37	2.88	2.22	2.92	2.61	2.91
EPT	Eutrophication potential - total (supplemental)	kg N eq	1.29	1.12	1.01	1.17	0.92	1.14	1.00	1.09
EPM	Eutrophication potential - marine	kg N eq	0.23	0.22	0.22	0.23	0.22	0.23	0.23	0.23
EPF	Eutrophication potential - freshwater	kg P eq	0.15	0.13	0.11	0.13	0.10	0.13	0.11	0.12
SFP	Smog formation potential	kg O3 eq	42.06	39.26	37.49	44.22	36.10	45.16	41.70	45.70
ADP _f	Abiotic depletion potential - fossil resources	MJ	4667.83	4124.45	3796.59	4066.49	3514.68	3896.12	3514.26	3671.62
ADP _e	Abiotic depletion potential - elements	kg Sb eq	5.28E-04	4.63E-04	4.20E-04	4.97E-04	3.89E-04	4.93E-04	4.35E-04	4.78E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	375.64	325.98	293.95	351.20	269.89	347.61	303.71	335.81
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	4814.88	4243.35	3896.95	4483.14	3601.70	4405.56	3919.15	4268.58
NRSF	Non-renewable secondary fuels	MJ	230.62	194.21	174.53	161.44	153.75	138.37	121.38	115.31
SM	Secondary materials	kg	0.00	99.17	152.78	141.32	209.37	188.43	247.93	235.54
FW	Net use of fresh water	m3	2.17	2.16	2.16	2.09	2.14	2.04	2.05	2.03
CCE	Calcination carbon emissions	kg CO2 eq	211.63	178.21	160.15	148.14	141.09	126.98	111.38	105.81
HWD	Hazardous waste disposed	kg	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
NHWD	Non-hazardous waste disposed	kg	9.30	8.98	8.80	8.62	8.62	8.39	8.26	8.17
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 5,000 psi - Air-Entrained

A1 - Raw Material Supply results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-5000-00-FA/SL-AE	LW-5000-20-FA-AE	LW-5000-30-FA-AE	LW-5000-30-SL-AE	LW-5000-40-FA-AE	LW-5000-40-SL-AE	LW-5000-50-FA/SL-AE	LW-5000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	638.31	542.85	487.38	525.99	436.11	491.97	427.21	451.79
GWPF	Global warming potential - fossil	kg CO2 eq	638.03	542.62	487.17	525.80	435.94	491.81	427.08	451.67
GWPB	Global warming potential - biogenic	kg CO2 eq	0.28	0.23	0.20	0.19	0.17	0.15	0.13	0.12
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
ODP	Ozone depletion potential	kg CFC-11 eq	1.06E-05	8.94E-06	8.04E-06	1.10E-05	7.10E-06	1.11E-05	9.38E-06	1.13E-05
AP	Acidification potential	kg SO2 eq	2.42	2.07	1.85	2.39	1.68	2.41	2.06	2.38
EPT	Eutrophication potential - total (supplemental)	kg N eq	1.26	1.09	0.98	1.14	0.89	1.11	0.96	1.05
EPM	Eutrophication potential - marine	kg N eq	0.13	0.11	0.10	0.11	0.09	0.11	0.10	0.11
EPF	Eutrophication potential - freshwater	kg P eq	0.15	0.12	0.11	0.13	0.10	0.13	0.11	0.12
SFP	Smog formation potential	kg O3 eq	31.08	26.58	23.89	31.29	21.54	31.60	26.98	31.48
ADP _f	Abiotic depletion potential - fossil resources	MJ	4163.19	3575.09	3222.35	3510.18	2915.50	3323.21	2910.98	3080.98
ADP _e	Abiotic depletion potential - elements	kg Sb eq	5.26E-04	4.61E-04	4.19E-04	4.95E-04	3.88E-04	4.92E-04	4.34E-04	4.76E-04
RPRE	Renewable primary energy used as an energy carrier	MJ	371.11	321.45	289.43	346.67	265.36	343.09	299.18	331.29
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	4303.99	3687.29	3315.76	3920.06	2995.34	3825.72	3308.65	3670.84
NRSF	Non-renewable secondary fuels	MJ	230.62	194.21	174.53	161.44	153.75	138.37	121.38	115.31
SM	Secondary materials	kg	0.00	99.17	152.78	141.32	209.37	188.43	247.93	235.54
FW	Net use of fresh water	m3	1.38	1.35	1.36	1.28	1.33	1.24	1.24	1.22
CCE	Calcination carbon emissions	kg CO2 eq	211.63	178.21	160.15	148.14	141.09	126.98	111.38	105.81
HWD	Hazardous waste disposed	kg	5.63E-03	4.75E-03	4.28E-03	4.38E-03	3.78E-03	3.96E-03	3.43E-03	3.55E-03
NHWD	Non-hazardous waste disposed	kg	3.01	2.69	2.51	2.33	2.33	2.11	1.97	1.88
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 5,000 psi - Air-Entrained

A2 - Transportation results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-5000-00-FA/SL-AE	LW-5000-20-FA-AE	LW-5000-30-FA-AE	LW-5000-30-SL-AE	LW-5000-40-FA-AE	LW-5000-40-SL-AE	LW-5000-50-FA/SL-AE	LW-5000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	25.54	28.95	30.83	29.47	32.74	30.73	33.04	32.08
GWPF	Global warming potential - fossil	kg CO2 eq	25.54	28.95	30.83	29.47	32.74	30.73	33.04	32.08
GWPB	Global warming potential - biogenic	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ODP	Ozone depletion potential	kg CFC-11 eq	1.02E-09	1.15E-09	1.22E-09	1.17E-09	1.30E-09	1.22E-09	1.31E-09	1.27E-09
AP	Acidification potential	kg SO2 eq	0.38	0.44	0.47	0.45	0.51	0.47	0.51	0.49
EPT	Eutrophication potential - total (supplemental)	kg N eq	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
EPM	Eutrophication potential - marine	kg N eq	0.10	0.11	0.12	0.11	0.13	0.12	0.13	0.12
EPF	Eutrophication potential - freshwater	kg P eq	3.03E-05	3.42E-05	3.64E-05	3.48E-05	3.86E-05	3.63E-05	3.89E-05	3.78E-05
SFP	Smog formation potential	kg O3 eq	10.49	12.19	13.12	12.44	14.07	13.07	14.23	13.73
ADP _f	Abiotic depletion potential - fossil resources	MJ	347.94	392.67	417.55	399.62	442.49	416.22	446.59	433.94
ADP _e	Abiotic depletion potential - elements	kg Sb eq	3.50E-08	3.86E-08	4.06E-08	3.91E-08	4.26E-08	4.04E-08	4.28E-08	4.18E-08
RPRE	Renewable primary energy used as an energy carrier	MJ	3.05E-03	3.36E-03	3.54E-03	3.41E-03	3.71E-03	3.52E-03	3.73E-03	3.64E-03
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	351.54	396.70	421.83	403.72	447.01	420.48	451.15	438.38
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	Non-hazardous waste disposed	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

Lightweight 5,000 psi - Air-Entrained

A3 - Manufacturing results per 1 m3 of fresh concrete

Ind.	Description	Unit	LW-5000-00-FA/SL-AE	LW-5000-20-FA-AE	LW-5000-30-FA-AE	LW-5000-30-SL-AE	LW-5000-40-FA-AE	LW-5000-40-SL-AE	LW-5000-50-FA/SL-AE	LW-5000-50-SL-AE
GWPT	Global warming potential - total	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPF	Global warming potential - fossil	kg CO2 eq	10.91	10.91	10.91	10.91	10.91	10.91	10.91	10.91
GWPB	Global warming potential - biogenic	kg CO2 eq	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03
GWPL	Global warming potential - land use and land-use change	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ODP	Ozone depletion potential	kg CFC-11 eq	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07	2.26E-07
AP	Acidification potential	kg SO2 eq	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
EPT	Eutrophication potential - total (supplemental)	kg N eq	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03	5.08E-03
EPM	Eutrophication potential - marine	kg N eq	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03	4.06E-03
EPF	Eutrophication potential - freshwater	kg P eq	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04	3.63E-04
SFP	Smog formation potential	kg O3 eq	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
ADP _f	Abiotic depletion potential - fossil resources	MJ	156.69	156.69	156.69	156.69	156.69	156.69	156.69	156.69
ADP _e	Abiotic depletion potential - elements	kg Sb eq	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
RPRE	Renewable primary energy used as an energy carrier	MJ	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
NRPRE	Non-renewable primary energy used as an energy carrier	MJ	159.35	159.35	159.35	159.35	159.35	159.35	159.35	159.35
NRSF	Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SM	Secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	Net use of fresh water	m3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
CCE	Calcination carbon emissions	kg CO2 eq	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HWD	Hazardous waste disposed	kg	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
NHWD	Non-hazardous waste disposed	kg	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
HLRW	High-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-
ILLRW	Intermediate- and low-level radioactive waste disposed	m3	-	-	-	-	-	-	-	-

INFORMATION RELATED TO SECTOR EPD

Contributing manufacturers: participating NRMCA member producers represented by the 1,238 participating U.S. facilities. The complete contributing-manufacturer list is located at the end of this document.

Selection of sites and products: participating ready mixed concrete facilities supplied primary foreground data. National A3 inventory means are production-volume weighted. A2 distance parameters in the current Version 4 LCA are arithmetic facility means. The 120 national product designs represent the declared strength, air-entrainment, density, and SCM ranges in the Version 4 product schedule.

Nature of the declared results: this sector EPD reports average values for the represented portion of the U.S. ready mixed concrete sector. The 1,238 represented facilities correspond to approximately about 20% of the approximately 6,500 U.S. ready mixed concrete plants cited by NRMCA; this is a plant-count coverage estimate rather than a verified production-volume share. These declared industry-average products are not individual products available for purchase. Regional benchmark results for the 18 study groups in the Version 4 LCA demonstrate geographic variation in GWP and other indicators. The principal drivers are cementitious-material proportions, material-transport distances, and plant electricity/fuel profiles; the regional results should not be interpreted as plant-specific results.

ABBREVIATIONS

Abbreviation	Definition
ACI	American Concrete Institute
ADPe	Abiotic depletion potential - elements
ADPf	Abiotic depletion potential - fossil resources
AE	Air-entrained
AP	Acidification potential
ASTM	ASTM International
CalTrans	California Department of Transportation
CCE	Calcination carbon emissions
CML	CML-IA life cycle impact assessment method
CPC	Central Product Classification
CSA	CSA Group
CSI	Construction Specifications Institute
DOE	U.S. Department of Energy
DOT	Department of Transportation
EAC	Environmental attribute certificate
EPD	Environmental Product Declaration
EPF	Eutrophication potential - freshwater
EPM	Eutrophication potential - marine
EPT	Eutrophication potential - total
FA	Fly ash
FW	Net use of fresh water
GPI	General Programme Instructions
GSA	U.S. General Services Administration
GWPB	Global warming potential - biogenic
GWPF	Global warming potential - fossil

Abbreviation	Definition
GWPL	Global warming potential - land use and land-use change
GWPT	Global warming potential - total
HLRW	High-level radioactive waste
HRWR	High-range water reducer
HWD	Hazardous waste disposed
IES	International EPD System
ILLRW	Intermediate- and low-level radioactive waste
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
LCA	Life cycle assessment
LCIA	Life cycle impact assessment
LW	Lightweight
MLA	Manufactured lightweight aggregate
NAE	Non-air-entrained
NETL	National Energy Technology Laboratory
NHWD	Non-hazardous waste disposed
NRMCA	National Ready Mixed Concrete Association
NRSF	Non-renewable secondary fuels
NSSGA	National Stone, Sand & Gravel Association
ODP	Ozone depletion potential
PC	Portland cement
PCR	Product Category Rules
PLC	Portland-limestone cement
psi	Pounds per square inch
RPRE	Renewable primary energy used as an energy carrier
SCM	Supplementary cementitious material
SFP	Smog formation potential
SL	Slag cement
SVHC	Substance of Very High Concern
TRACI	Tool for Reduction and Assessment of Chemicals and Other Environmental Impacts
UNSPSC	United Nations Standard Products and Services Code
USLCI	U.S. Life Cycle Inventory Database
w/cm	Water-to-cementitious-material ratio
WR	Water reducer

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VERSION HISTORY

Original version of the EPD under The International EPD System: Publication/version date: 2026-10-09; validity through 2031-10-09.

Additional LCA Results

All results are per 1 m³ of fresh concrete. The Mean column is the direct A1-A3 product result from the 2026-10-04 Theta software output. A1 is fixed for each declared product. Product-level statistical variability reflects sampling uncertainty in A2 transportation and A3 manufacturing. A2 precision uses the applicable Kish effective sample size derived from production-volume weights; the corresponding observed material- and mode-specific N values are reported separately in Appendix B. A3 precision uses the applicable facility statistical population. A2 and A3 standard errors are combined by root-sum-of-squares. Accordingly, the product-level SD, MOE, and 95% CI do not correspond to a single common N of 1,238. Median, P20, P40, P60, and P80 are empirical order statistics. EPT is not included in these statistical tables; EPM and EPF are reported as the TRACI 2.2 eutrophication indicators.

Confidence-interval basis and limitation: The 95% confidence intervals for product means use a two-sided Student t approximation applied to the combined A2 and A3 standard error. The A2 component is based on the applicable Kish effective sample size, while the A3 component is based on the applicable facility statistical population; the two standard errors are combined by root-sum-of-squares. The intervals therefore represent sampling precision in the modeled A2 transportation and A3 manufacturing inputs and do not include systematic uncertainty in background datasets or model structure.

Normal-Weight 2,500 psi - Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
2500-00-FA/SL-AE	GWPT	kg CO ₂ e	272.59	15.45	264.43	250.91	260.20	268.98	285.61	0.96	271.63 - 273.55
	ODP	kg CFC11e	5.736E-06	1.334E-07	5.705E-06	5.609E-06	5.671E-06	5.741E-06	5.827E-06	7.433E-09	5.729E-06 - 5.743E-06
	AP	kg SO ₂ e	0.860	0.156	0.720	0.620	0.688	0.760	0.921	0.010	0.850 - 0.870
	EPM	kg N eq	0.115	0.040	0.083	0.059	0.075	0.091	0.130	0.003	0.112 - 0.118
	EPF	kg P eq	0.033	0.000	0.033	0.033	0.033	0.033	0.033	1.15E-05	0.033 - 0.033
	SFP	kg O ₃ e	18.75	4.02	14.98	12.65	14.20	15.87	19.86	0.26	18.49 - 19.01
	ADP _f	MJ	1816.68	219.05	1712.29	1522.31	1651.57	1770.92	2015.08	13.57	1803.11 - 1830.25
	ADP _e	kg Sb eq	1.095E-04	1.132E-06	1.092E-04	1.083E-04	1.090E-04	1.096E-04	1.102E-04	6.304E-08	1.094E-04 - 1.096E-04
2500-20-FA-AE	GWPT	kg CO ₂ e	238.90	18.56	230.53	216.44	225.50	236.33	256.65	1.20	237.70 - 240.10
	ODP	kg CFC11e	4.880E-06	1.334E-07	4.849E-06	4.753E-06	4.815E-06	4.885E-06	4.971E-06	7.433E-09	4.873E-06 - 4.887E-06
	AP	kg SO ₂ e	0.821	0.243	0.668	0.556	0.625	0.724	1.005	0.016	0.805 - 0.837
	EPM	kg N eq	0.119	0.061	0.084	0.058	0.074	0.098	0.164	0.004	0.115 - 0.123
	EPF	kg P eq	0.028	0.000	0.028	0.028	0.028	0.028	0.028	1.16E-05	0.028 - 0.028
	SFP	kg O ₃ e	18.30	6.30	14.09	11.61	13.12	15.40	22.74	0.42	17.88 - 18.72
	ADP _f	MJ	1671.15	249.43	1563.89	1367.18	1495.07	1645.78	1910.31	16.06	1655.09 - 1687.21
	ADP _e	kg Sb eq	1.067E-04	1.132E-06	1.064E-04	1.055E-04	1.062E-04	1.068E-04	1.074E-04	6.304E-08	1.066E-04 - 1.068E-04
2500-30-FA-AE	GWPT	kg CO ₂ e	220.69	18.53	211.42	197.51	206.63	217.38	237.68	1.20	219.49 - 221.89
	ODP	kg CFC11e	4.417E-06	1.334E-07	4.386E-06	4.290E-06	4.352E-06	4.422E-06	4.508E-06	7.433E-09	4.410E-06 - 4.424E-06
	AP	kg SO ₂ e	0.800	0.260	0.632	0.520	0.589	0.691	1.000	0.017	0.783 - 0.817
	EPM	kg N eq	0.121	0.066	0.082	0.056	0.072	0.096	0.171	0.004	0.117 - 0.125
	EPF	kg P eq	0.025	0.000	0.025	0.025	0.025	0.025	0.025	1.16E-05	0.025 - 0.025
	SFP	kg O ₃ e	18.06	6.58	13.37	10.92	12.45	14.76	22.53	0.43	17.63 - 18.49
	ADP _f	MJ	1592.49	252.85	1478.01	1277.86	1407.35	1558.70	1827.51	16.29	1576.20 - 1608.78
	ADP _e	kg Sb eq	1.052E-04	1.132E-06	1.049E-04	1.040E-04	1.047E-04	1.053E-04	1.059E-04	6.304E-08	1.051E-04 - 1.053E-04
2500-30-SL-AE	GWPT	kg CO ₂ e	218.58	18.59	209.73	195.63	204.92	215.83	235.88	1.20	217.38 - 219.78
	ODP	kg CFC11e	5.976E-06	1.334E-07	5.945E-06	5.849E-06	5.911E-06	5.981E-06	6.067E-06	7.433E-09	5.969E-06 - 5.983E-06
	AP	kg SO ₂ e	0.922	0.262	0.763	0.650	0.719	0.823	1.132	0.017	0.905 - 0.939
	EPM	kg N eq	0.119	0.064	0.082	0.056	0.072	0.097	0.167	0.004	0.115 - 0.123
	EPF	kg P eq	0.027	0.000	0.027	0.027	0.027	0.027	0.027	1.16E-05	0.027 - 0.027
	SFP	kg O ₃ e	20.30	6.84	15.83	13.38	14.91	17.30	25.44	0.45	19.85 - 20.75
	ADP _f	MJ	1535.76	257.65	1425.94	1224.01	1354.98	1511.15	1781.48	16.61	1519.15 - 1552.37
	ADP _e	kg Sb eq	1.031E-04	1.132E-06	1.028E-04	1.019E-04	1.026E-04	1.032E-04	1.038E-04	6.305E-08	1.030E-04 - 1.032E-04

Normal-Weight 2,500 psi - Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
2500-40-FA-AE	GWPT	kg CO ₂ e	201.46	17.98	191.58	177.37	186.74	197.26	216.54	1.16	200.30 - 202.62
	ODP	kg CFC11e	3.929E-06	1.334E-07	3.898E-06	3.802E-06	3.863E-06	3.934E-06	4.020E-06	7.433E-09	3.922E-06 - 3.936E-06
	AP	kg SO ₂ e	0.778	0.252	0.594	0.482	0.552	0.653	0.948	0.017	0.761 - 0.795
	EPM	kg N eq	0.123	0.061	0.080	0.054	0.070	0.095	0.160	0.004	0.119 - 0.127
	EPF	kg P eq	0.023	0.000	0.023	0.023	0.023	0.023	0.023	1.16E-05	0.023 - 0.023
	SFP	kg O ₃ e	17.80	6.57	12.62	10.20	11.70	14.08	21.79	0.43	17.37 - 18.23
	ADPf	MJ	1509.45	255.54	1385.96	1184.97	1315.52	1464.39	1740.73	16.47	1492.98 - 1525.92
2500-40-SL-AE	ADPe	kg Sb eq	1.036E-04	1.132E-06	1.033E-04	1.024E-04	1.031E-04	1.037E-04	1.043E-04	6.305E-08	1.035E-04 - 1.037E-04
	GWPT	kg CO ₂ e	200.58	18.51	191.15	176.80	186.54	197.36	216.92	1.19	199.39 - 201.77
	ODP	kg CFC11e	6.057E-06	1.334E-07	6.026E-06	5.930E-06	5.992E-06	6.062E-06	6.148E-06	7.433E-09	6.050E-06 - 6.064E-06
	AP	kg SO ₂ e	0.943	0.247	0.772	0.657	0.730	0.831	1.114	0.016	0.927 - 0.959
	EPM	kg N eq	0.121	0.061	0.081	0.054	0.072	0.096	0.161	0.004	0.117 - 0.125
	EPF	kg P eq	0.025	0.000	0.025	0.025	0.025	0.025	0.025	1.16E-05	0.025 - 0.025
	SFP	kg O ₃ e	20.81	6.63	16.01	13.43	15.08	17.51	25.10	0.44	20.37 - 21.25
2500-50-FA/SL-AE	ADPf	MJ	1442.13	264.58	1323.56	1121.79	1257.33	1408.38	1694.51	17.08	1425.05 - 1459.21
	ADPe	kg Sb eq	1.009E-04	1.132E-06	1.006E-04	9.972E-05	1.004E-04	1.010E-04	1.016E-04	6.305E-08	1.008E-04 - 1.010E-04
	GWPT	kg CO ₂ e	182.05	18.25	171.90	157.52	167.18	177.49	197.29	1.18	180.87 - 183.23
	ODP	kg CFC11e	5.133E-06	1.334E-07	5.102E-06	5.006E-06	5.067E-06	5.138E-06	5.224E-06	7.433E-09	5.126E-06 - 5.140E-06
	AP	kg SO ₂ e	0.887	0.230	0.700	0.580	0.659	0.756	1.007	0.015	0.872 - 0.902
	EPM	kg N eq	0.123	0.056	0.080	0.052	0.070	0.093	0.148	0.004	0.119 - 0.127
	EPF	kg P eq	0.022	0.000	0.022	0.022	0.022	0.022	0.022	1.16E-05	0.022 - 0.022
2500-50-SL-AE	SFP	kg O ₃ e	19.93	6.49	14.74	11.96	13.73	16.06	23.40	0.43	19.50 - 20.36
	ADPf	MJ	1375.45	256.92	1247.97	1045.29	1177.83	1323.38	1604.88	16.56	1358.89 - 1392.01
	ADPe	kg Sb eq	9.995E-05	1.132E-06	9.969E-05	9.876E-05	9.943E-05	1.000E-04	1.006E-04	6.305E-08	9.989E-05 - 1.000E-04
	GWPT	kg CO ₂ e	182.58	18.29	172.71	158.28	168.02	178.54	198.06	1.18	181.40 - 183.76
	ODP	kg CFC11e	6.137E-06	1.334E-07	6.106E-06	6.010E-06	6.071E-06	6.142E-06	6.228E-06	7.433E-09	6.130E-06 - 6.144E-06
	AP	kg SO ₂ e	0.963	0.225	0.783	0.665	0.742	0.840	1.082	0.015	0.948 - 0.978
	EPM	kg N eq	0.122	0.056	0.080	0.052	0.070	0.094	0.150	0.004	0.118 - 0.126
2500-50-SL-AE	EPF	kg P eq	0.023	0.000	0.023	0.023	0.023	0.023	0.023	1.15E-05	0.023 - 0.023
	SFP	kg O ₃ e	21.33	6.24	16.34	13.51	15.28	17.64	24.50	0.41	20.92 - 21.74
	ADPf	MJ	1348.49	248.62	1226.45	1020.95	1156.67	1294.22	1566.87	16.00	1332.49 - 1364.49
	ADPe	kg Sb eq	9.878E-05	1.132E-06	9.852E-05	9.759E-05	9.826E-05	9.884E-05	9.948E-05	6.305E-08	9.872E-05 - 9.884E-05

Normal-Weight 3,000 psi - Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
3000-00-FA/SL-AE	GWPT	kg CO2e	304.33	15.36	295.73	282.09	291.55	300.18	316.64	0.95	303.38 - 305.28
	ODP	kg CFC11e	6.456E-06	1.334E-07	6.425E-06	6.329E-06	6.391E-06	6.461E-06	6.546E-06	7.433E-09	6.449E-06 - 6.463E-06
	AP	kg SO2e	0.936	0.158	0.788	0.686	0.753	0.827	0.989	0.010	0.926 - 0.946
	EPM	kg N eq	0.123	0.041	0.087	0.064	0.080	0.096	0.137	0.003	0.120 - 0.126
	EPF	kg P eq	0.037	0.000	0.037	0.037	0.037	0.037	0.037	1.15E-05	0.037 - 0.037
	SFP	kg O3e	20.28	3.91	16.27	13.83	15.43	17.12	20.84	0.25	20.03 - 20.53
	ADPf	MJ	1993.35	214.22	1881.85	1692.42	1824.28	1941.58	2176.01	13.25	1980.10 - 2006.60
3000-20-FA-AE	ADPe	kg Sb eq	1.238E-04	1.132E-06	1.235E-04	1.226E-04	1.233E-04	1.239E-04	1.245E-04	6.304E-08	1.237E-04 - 1.239E-04
	GWPT	kg CO2e	266.15	19.24	256.85	243.02	252.12	262.67	284.66	1.24	264.91 - 267.39
	ODP	kg CFC11e	5.485E-06	1.334E-07	5.454E-06	5.358E-06	5.420E-06	5.490E-06	5.576E-06	7.433E-09	5.478E-06 - 5.492E-06
	AP	kg SO2e	0.892	0.250	0.724	0.615	0.682	0.780	1.078	0.016	0.876 - 0.908
	EPM	kg N eq	0.128	0.063	0.090	0.064	0.079	0.102	0.174	0.004	0.124 - 0.132
	EPF	kg P eq	0.031	0.000	0.031	0.031	0.031	0.031	0.031	1.16E-05	0.031 - 0.031
	SFP	kg O3e	19.77	6.43	15.15	12.66	14.17	16.37	24.05	0.42	19.35 - 20.19
3000-30-FA-AE	ADPf	MJ	1828.45	260.97	1713.43	1515.54	1642.30	1790.84	2082.06	16.84	1811.61 - 1845.29
	ADPe	kg Sb eq	1.207E-04	1.132E-06	1.204E-04	1.195E-04	1.202E-04	1.208E-04	1.214E-04	6.304E-08	1.206E-04 - 1.208E-04
	GWPT	kg CO2e	245.51	19.32	235.42	221.41	230.68	241.50	263.11	1.25	244.26 - 246.76
	ODP	kg CFC11e	4.961E-06	1.334E-07	4.930E-06	4.834E-06	4.895E-06	4.966E-06	5.052E-06	7.433E-09	4.954E-06 - 4.968E-06
	AP	kg SO2e	0.869	0.259	0.682	0.575	0.643	0.741	1.054	0.017	0.852 - 0.886
	EPM	kg N eq	0.130	0.067	0.087	0.061	0.077	0.101	0.178	0.004	0.126 - 0.134
	EPF	kg P eq	0.028	0.000	0.028	0.028	0.028	0.028	0.028	1.16E-05	0.028 - 0.028
3000-30-SL-AE	SFP	kg O3e	19.50	6.65	14.35	11.86	13.41	15.69	23.61	0.44	19.06 - 19.94
	ADPf	MJ	1739.31	263.12	1613.79	1416.05	1543.74	1698.42	1984.73	16.98	1722.33 - 1756.29
	ADPe	kg Sb eq	1.190E-04	1.132E-06	1.187E-04	1.178E-04	1.185E-04	1.191E-04	1.197E-04	6.305E-08	1.189E-04 - 1.191E-04
	GWPT	kg CO2e	243.13	18.97	233.51	219.35	228.61	239.63	260.29	1.22	241.91 - 244.35
	ODP	kg CFC11e	6.728E-06	1.334E-07	6.697E-06	6.601E-06	6.662E-06	6.733E-06	6.819E-06	7.433E-09	6.721E-06 - 6.735E-06
	AP	kg SO2e	1.006	0.266	0.830	0.718	0.788	0.892	1.208	0.018	0.988 - 1.024
	EPM	kg N eq	0.128	0.068	0.087	0.061	0.077	0.102	0.179	0.004	0.124 - 0.132
3000-30-SL-AE	EPF	kg P eq	0.030	0.000	0.030	0.030	0.030	0.030	0.030	1.16E-05	0.030 - 0.030
	SFP	kg O3e	22.04	6.68	17.16	14.64	16.24	18.55	26.44	0.44	21.60 - 22.48
	ADPf	MJ	1675.03	260.51	1556.17	1352.84	1483.89	1637.41	1916.79	16.81	1658.22 - 1691.84
	ADPe	kg Sb eq	1.165E-04	1.132E-06	1.162E-04	1.153E-04	1.160E-04	1.166E-04	1.172E-04	6.305E-08	1.164E-04 - 1.166E-04

Normal-Weight 3,000 psi - Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
3000-40-FA-AE	GWPT	kg CO ₂ e	223.73	18.21	212.99	198.68	208.07	218.50	238.34	1.17	222.56 - 224.90
	ODP	kg CFC11e	4.408E-06	1.334E-07	4.376E-06	4.281E-06	4.342E-06	4.413E-06	4.499E-06	7.433E-09	4.401E-06 - 4.415E-06
	AP	kg SO ₂ e	0.844	0.262	0.642	0.530	0.601	0.698	1.015	0.017	0.827 - 0.861
	EPM	kg N eq	0.132	0.066	0.085	0.059	0.076	0.099	0.173	0.004	0.128 - 0.136
	EPF	kg P eq	0.025	0.000	0.025	0.025	0.025	0.025	0.025	1.16E-05	0.025 - 0.025
	SFP	kg O ₃ e	19.21	6.70	13.56	11.08	12.60	14.84	22.93	0.44	18.77 - 19.65
	ADP _f	MJ	1645.22	254.32	1509.73	1308.88	1439.68	1585.45	1863.28	16.39	1628.83 - 1661.61
	ADP _e	kg Sb eq	1.172E-04	1.132E-06	1.169E-04	1.160E-04	1.167E-04	1.173E-04	1.179E-04	6.305E-08	1.171E-04 - 1.173E-04
	GWPT	kg CO ₂ e	222.73	18.37	212.64	198.21	207.73	218.45	238.09	1.18	221.55 - 223.91
	ODP	kg CFC11e	6.819E-06	1.334E-07	6.788E-06	6.692E-06	6.753E-06	6.824E-06	6.910E-06	7.433E-09	6.812E-06 - 6.826E-06
3000-40-SL-AE	AP	kg SO ₂ e	1.030	0.257	0.842	0.727	0.799	0.902	1.202	0.017	1.013 - 1.047
	EPM	kg N eq	0.130	0.062	0.086	0.059	0.076	0.101	0.168	0.004	0.126 - 0.134
	EPF	kg P eq	0.028	0.000	0.028	0.028	0.028	0.028	0.028	1.16E-05	0.028 - 0.028
	SFP	kg O ₃ e	22.62	6.77	17.32	14.84	16.38	18.81	26.76	0.45	22.17 - 23.07
	ADP _f	MJ	1568.93	262.11	1443.05	1238.46	1370.70	1523.47	1805.79	16.91	1552.02 - 1585.84
	ADP _e	kg Sb eq	1.141E-04	1.132E-06	1.138E-04	1.129E-04	1.136E-04	1.142E-04	1.148E-04	6.305E-08	1.140E-04 - 1.142E-04
	GWPT	kg CO ₂ e	201.73	18.45	190.49	176.14	185.86	196.08	216.35	1.19	200.54 - 202.92
	ODP	kg CFC11e	5.772E-06	1.334E-07	5.740E-06	5.645E-06	5.706E-06	5.777E-06	5.863E-06	7.433E-09	5.765E-06 - 5.779E-06
	AP	kg SO ₂ e	0.966	0.246	0.759	0.644	0.720	0.818	1.099	0.016	0.950 - 0.982
	EPM	kg N eq	0.132	0.061	0.084	0.057	0.075	0.098	0.162	0.004	0.128 - 0.136
3000-50-FA/SL-AE	EPF	kg P eq	0.024	0.000	0.024	0.024	0.024	0.024	0.024	1.16E-05	0.024 - 0.024
	SFP	kg O ₃ e	21.62	6.77	15.89	13.20	14.93	17.17	25.19	0.45	21.17 - 22.07
	ADP _f	MJ	1493.38	262.61	1353.66	1149.86	1282.58	1430.40	1719.82	16.95	1476.43 - 1510.33
	ADP _e	kg Sb eq	1.130E-04	1.132E-06	1.127E-04	1.118E-04	1.125E-04	1.131E-04	1.137E-04	6.305E-08	1.129E-04 - 1.131E-04
	GWPT	kg CO ₂ e	202.33	18.64	191.55	177.08	186.79	197.11	217.62	1.20	201.13 - 203.53
	ODP	kg CFC11e	6.910E-06	1.334E-07	6.878E-06	6.783E-06	6.844E-06	6.915E-06	7.001E-06	7.433E-09	6.903E-06 - 6.917E-06
	AP	kg SO ₂ e	1.053	0.243	0.853	0.735	0.813	0.914	1.184	0.016	1.037 - 1.069
	EPM	kg N eq	0.131	0.059	0.085	0.057	0.075	0.099	0.159	0.004	0.127 - 0.135
	EPF	kg P eq	0.026	0.000	0.026	0.026	0.026	0.026	0.026	1.16E-05	0.026 - 0.026
	SFP	kg O ₃ e	23.21	6.68	17.70	14.91	16.71	19.00	26.72	0.44	22.77 - 23.65
3000-50-SL-AE	ADP _f	MJ	1462.82	261.86	1328.08	1123.22	1255.09	1403.99	1691.35	16.90	1445.92 - 1479.72
	ADP _e	kg Sb eq	1.117E-04	1.132E-06	1.114E-04	1.105E-04	1.112E-04	1.118E-04	1.124E-04	6.305E-08	1.116E-04 - 1.118E-04

Normal-Weight 4,000 psi - Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
4000-00-FA/SL-AE	GWPT	kg CO2e	376.21	15.08	366.18	352.77	362.06	370.90	386.67	0.93	375.28 - 377.14
	ODP	kg CFC11e	8.085E-06	1.334E-07	8.054E-06	7.958E-06	8.019E-06	8.090E-06	8.175E-06	7.433E-09	8.078E-06 - 8.092E-06
	AP	kg SO2e	1.109	0.156	0.934	0.830	0.902	0.975	1.131	0.010	1.099 - 1.119
	EPM	kg N eq	0.142	0.040	0.100	0.076	0.094	0.110	0.148	0.003	0.139 - 0.145
	EPF	kg P eq	0.046	0.000	0.046	0.046	0.046	0.046	0.046	1.15E-05	0.046 - 0.046
	SFP	kg O3e	23.75	4.03	19.03	16.38	18.20	19.82	23.63	0.26	23.49 - 24.01
4000-20-FA-AE	ADPf	MJ	2393.50	212.05	2265.83	2078.16	2206.42	2327.79	2555.96	13.11	2380.39 - 2406.61
	ADPe	kg Sb eq	1.562E-04	1.132E-06	1.559E-04	1.550E-04	1.557E-04	1.563E-04	1.569E-04	6.304E-08	1.561E-04 - 1.563E-04
	GWPT	kg CO2e	327.87	20.49	316.66	302.88	312.23	322.40	347.05	1.33	326.54 - 329.20
	ODP	kg CFC11e	6.857E-06	1.334E-07	6.825E-06	6.730E-06	6.791E-06	6.862E-06	6.948E-06	7.433E-09	6.850E-06 - 6.864E-06
	AP	kg SO2e	1.053	0.258	0.852	0.746	0.812	0.902	1.226	0.017	1.036 - 1.070
	EPM	kg N eq	0.147	0.065	0.100	0.075	0.091	0.112	0.189	0.004	0.143 - 0.151
4000-30-FA-AE	EPF	kg P eq	0.039	0.000	0.039	0.039	0.039	0.039	0.039	1.16E-05	0.039 - 0.039
	SFP	kg O3e	23.11	6.80	17.47	14.91	16.71	18.70	27.03	0.45	22.66 - 23.56
	ADPf	MJ	2184.70	290.10	2042.17	1845.53	1978.75	2122.67	2470.04	18.80	2165.90 - 2203.50
	ADPe	kg Sb eq	1.522E-04	1.132E-06	1.519E-04	1.510E-04	1.517E-04	1.523E-04	1.529E-04	6.305E-08	1.521E-04 - 1.523E-04
	GWPT	kg CO2e	301.74	21.13	289.74	275.84	285.29	295.28	321.30	1.37	300.37 - 303.11
	ODP	kg CFC11e	6.193E-06	1.334E-07	6.161E-06	6.066E-06	6.127E-06	6.198E-06	6.284E-06	7.433E-09	6.186E-06 - 6.200E-06
4000-30-SL-AE	AP	kg SO2e	1.023	0.259	0.800	0.694	0.766	0.855	1.175	0.017	1.006 - 1.040
	EPM	kg N eq	0.150	0.066	0.098	0.073	0.089	0.111	0.190	0.004	0.146 - 0.154
	EPF	kg P eq	0.035	0.000	0.035	0.035	0.035	0.035	0.035	1.16E-05	0.035 - 0.035
	SFP	kg O3e	22.76	6.74	16.56	13.91	15.69	17.89	25.86	0.44	22.32 - 23.20
	ADPf	MJ	2071.84	288.59	1921.48	1726.30	1856.88	1996.33	2349.41	18.70	2053.14 - 2090.54
	ADPe	kg Sb eq	1.501E-04	1.132E-06	1.498E-04	1.489E-04	1.496E-04	1.502E-04	1.508E-04	6.305E-08	1.500E-04 - 1.502E-04
4000-30-SL-AE	GWPT	kg CO2e	298.72	21.34	287.34	273.04	282.76	293.35	318.71	1.38	297.34 - 300.10
	ODP	kg CFC11e	8.431E-06	1.334E-07	8.399E-06	8.304E-06	8.365E-06	8.436E-06	8.522E-06	7.433E-09	8.424E-06 - 8.438E-06
	AP	kg SO2e	1.198	0.266	0.988	0.878	0.949	1.043	1.371	0.018	1.180 - 1.216
	EPM	kg N eq	0.148	0.068	0.099	0.073	0.090	0.113	0.192	0.004	0.144 - 0.152
	EPF	kg P eq	0.037	0.000	0.037	0.037	0.037	0.037	0.037	1.16E-05	0.037 - 0.037
	SFP	kg O3e	25.97	6.81	20.08	17.56	19.18	21.42	29.61	0.45	25.52 - 26.42
4000-30-SL-AE	ADPf	MJ	1990.46	279.32	1849.09	1645.59	1778.19	1929.24	2246.94	18.07	1972.39 - 2008.53
	ADPe	kg Sb eq	1.470E-04	1.132E-06	1.467E-04	1.458E-04	1.465E-04	1.471E-04	1.477E-04	6.305E-08	1.469E-04 - 1.471E-04

Normal-Weight 4,000 psi - Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
4000-40-FA-AE	GWPT	kg CO ₂ e	274.16	19.91	261.25	247.38	256.69	266.67	290.50	1.29	272.87 - 275.45
	ODP	kg CFC11e	5.492E-06	1.334E-07	5.460E-06	5.365E-06	5.426E-06	5.497E-06	5.583E-06	7.433E-09	5.485E-06 - 5.499E-06
	AP	kg SO ₂ e	0.991	0.254	0.747	0.637	0.714	0.799	1.111	0.017	0.974 - 1.008
	EPM	kg N eq	0.153	0.066	0.096	0.070	0.088	0.109	0.186	0.004	0.149 - 0.157
	EPF	kg P eq	0.031	0.000	0.031	0.031	0.031	0.031	0.031	1.16E-05	0.031 - 0.031
	SFP	kg O ₃ e	22.39	6.98	15.59	12.90	14.61	16.84	25.27	0.46	21.93 - 22.85
4000-40-SL-AE	ADP _f	MJ	1952.71	264.85	1790.20	1593.34	1720.59	1864.92	2168.84	17.10	1935.61 - 1969.81
	ADP _e	kg Sb eq	1.478E-04	1.132E-06	1.475E-04	1.466E-04	1.473E-04	1.479E-04	1.485E-04	6.305E-08	1.477E-04 - 1.479E-04
	GWPT	kg CO ₂ e	272.89	19.13	260.93	246.59	256.06	266.46	288.05	1.24	271.65 - 274.13
	ODP	kg CFC11e	8.546E-06	1.334E-07	8.514E-06	8.419E-06	8.480E-06	8.551E-06	8.637E-06	7.433E-09	8.539E-06 - 8.553E-06
	AP	kg SO ₂ e	1.227	0.266	1.003	0.885	0.965	1.058	1.379	0.018	1.209 - 1.245
	EPM	kg N eq	0.150	0.070	0.098	0.070	0.089	0.111	0.193	0.005	0.145 - 0.155
4000-50-FA/SL-AE	EPF	kg P eq	0.034	0.000	0.034	0.034	0.034	0.034	0.034	1.16E-05	0.034 - 0.034
	SFP	kg O ₃ e	26.71	6.99	20.41	17.79	19.45	21.63	30.19	0.46	26.25 - 27.17
	ADP _f	MJ	1856.12	267.04	1705.37	1503.51	1633.92	1782.89	2081.72	17.25	1838.87 - 1873.37
	ADP _e	kg Sb eq	1.439E-04	1.132E-06	1.436E-04	1.427E-04	1.434E-04	1.440E-04	1.446E-04	6.305E-08	1.438E-04 - 1.440E-04
	GWPT	kg CO ₂ e	246.30	18.37	233.04	218.73	228.12	238.39	258.75	1.18	245.12 - 247.48
	ODP	kg CFC11e	7.221E-06	1.334E-07	7.189E-06	7.094E-06	7.155E-06	7.226E-06	7.311E-06	7.433E-09	7.214E-06 - 7.228E-06
4000-50-SL-AE	AP	kg SO ₂ e	1.147	0.256	0.900	0.782	0.862	0.952	1.258	0.017	1.130 - 1.164
	EPM	kg N eq	0.153	0.066	0.095	0.067	0.086	0.107	0.184	0.004	0.149 - 0.157
	EPF	kg P eq	0.030	0.000	0.030	0.030	0.030	0.030	0.030	1.16E-05	0.030 - 0.030
	SFP	kg O ₃ e	25.45	7.10	18.49	15.71	17.49	19.66	28.31	0.47	24.98 - 25.92
	ADP _f	MJ	1760.46	259.43	1591.86	1390.70	1522.89	1667.91	1955.37	16.73	1743.73 - 1777.19
	ADP _e	kg Sb eq	1.425E-04	1.132E-06	1.422E-04	1.413E-04	1.420E-04	1.426E-04	1.432E-04	6.305E-08	1.424E-04 - 1.426E-04
4000-50-SL-AE	GWPT	kg CO ₂ e	247.06	18.73	234.16	219.68	229.28	239.79	260.33	1.21	245.85 - 248.27
	ODP	kg CFC11e	8.661E-06	1.334E-07	8.629E-06	8.534E-06	8.595E-06	8.666E-06	8.752E-06	7.433E-09	8.654E-06 - 8.668E-06
	AP	kg SO ₂ e	1.257	0.262	1.019	0.901	0.980	1.071	1.388	0.017	1.240 - 1.274
	EPM	kg N eq	0.152	0.067	0.097	0.068	0.087	0.109	0.186	0.004	0.148 - 0.156
	EPF	kg P eq	0.032	0.000	0.032	0.032	0.032	0.032	0.032	1.16E-05	0.032 - 0.032
	SFP	kg O ₃ e	27.46	7.27	20.75	18.00	19.83	21.98	30.91	0.48	26.98 - 27.94
4000-50-SL-AE	ADP _f	MJ	1721.77	265.19	1559.35	1353.80	1490.97	1637.55	1929.22	17.12	1704.65 - 1738.89
	ADP _e	kg Sb eq	1.409E-04	1.132E-06	1.406E-04	1.397E-04	1.404E-04	1.410E-04	1.416E-04	6.305E-08	1.408E-04 - 1.410E-04

Normal-Weight 5,000 psi - Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
5000-00-FA/SL-AE	GWPT	kg CO2e	464.16	15.23	452.85	439.38	448.41	457.80	473.41	0.94	463.22 - 465.10
	ODP	kg CFC11e	1.000E-05	1.334E-07	9.968E-06	9.873E-06	9.934E-06	1.000E-05	1.009E-05	7.433E-09	9.993E-06 - 1.001E-05
	AP	kg SO2e	1.321	0.166	1.116	1.005	1.086	1.158	1.323	0.010	1.311 - 1.331
	EPM	kg N eq	0.166	0.042	0.117	0.092	0.111	0.127	0.167	0.003	0.163 - 0.169
	EPF	kg P eq	0.056	0.000	0.056	0.056	0.056	0.056	0.056	1.15E-05	0.056 - 0.056
	SFP	kg O3e	27.87	4.32	22.30	19.44	21.43	23.11	27.20	0.27	27.60 - 28.14
5000-20-FA-AE	ADPf	MJ	2937.80	217.50	2790.27	2603.45	2730.71	2860.16	3089.70	13.47	2924.33 - 2951.27
	ADPe	kg Sb eq	2.265E-04	1.132E-06	2.262E-04	2.253E-04	2.260E-04	2.266E-04	2.272E-04	6.304E-08	2.264E-04 - 2.266E-04
	GWPT	kg CO2e	404.04	21.27	391.19	377.10	386.95	396.48	422.98	1.38	402.66 - 405.42
	ODP	kg CFC11e	8.472E-06	1.334E-07	8.440E-06	8.345E-06	8.406E-06	8.477E-06	8.563E-06	7.433E-09	8.465E-06 - 8.479E-06
	AP	kg SO2e	1.252	0.267	1.016	0.897	0.974	1.067	1.392	0.018	1.234 - 1.270
	EPM	kg N eq	0.173	0.070	0.117	0.090	0.108	0.130	0.213	0.005	0.168 - 0.178
5000-30-FA-AE	EPF	kg P eq	0.048	0.000	0.048	0.048	0.048	0.048	0.048	1.16E-05	0.048 - 0.048
	SFP	kg O3e	27.07	7.28	20.35	17.47	19.48	21.72	30.38	0.48	26.59 - 27.55
	ADPf	MJ	2681.19	304.55	2519.13	2319.11	2456.99	2589.91	2974.98	19.77	2661.42 - 2700.96
	ADPe	kg Sb eq	2.232E-04	1.132E-06	2.229E-04	2.220E-04	2.227E-04	2.233E-04	2.239E-04	6.305E-08	2.231E-04 - 2.233E-04
	GWPT	kg CO2e	371.54	21.91	357.60	343.35	353.12	362.71	390.45	1.42	370.12 - 372.96
	ODP	kg CFC11e	7.644E-06	1.334E-07	7.612E-06	7.517E-06	7.578E-06	7.649E-06	7.735E-06	7.433E-09	7.637E-06 - 7.651E-06
5000-30-SL-AE	AP	kg SO2e	1.215	0.262	0.953	0.837	0.910	1.003	1.323	0.017	1.198 - 1.232
	EPM	kg N eq	0.176	0.068	0.114	0.087	0.104	0.127	0.206	0.004	0.172 - 0.180
	EPF	kg P eq	0.043	0.000	0.043	0.043	0.043	0.043	0.043	1.16E-05	0.043 - 0.043
	SFP	kg O3e	26.64	7.07	19.16	16.37	18.23	20.46	28.90	0.47	26.17 - 27.11
	ADPf	MJ	2542.47	307.20	2368.65	2165.68	2300.59	2437.57	2825.26	19.95	2522.52 - 2562.42
	ADPe	kg Sb eq	2.215E-04	1.132E-06	2.212E-04	2.203E-04	2.210E-04	2.216E-04	2.222E-04	6.305E-08	2.214E-04 - 2.216E-04
5000-30-SL-AE	GWPT	kg CO2e	367.51	22.50	354.12	339.80	349.84	359.47	388.00	1.46	366.05 - 368.97
	ODP	kg CFC11e	1.043E-05	1.334E-07	1.040E-05	1.030E-05	1.036E-05	1.043E-05	1.052E-05	7.433E-09	1.042E-05 - 1.044E-05
	AP	kg SO2e	1.432	0.272	1.182	1.066	1.146	1.237	1.572	0.018	1.414 - 1.450
	EPM	kg N eq	0.173	0.069	0.115	0.087	0.106	0.128	0.209	0.005	0.168 - 0.178
	EPF	kg P eq	0.046	0.000	0.046	0.046	0.046	0.046	0.046	1.16E-05	0.046 - 0.046
	SFP	kg O3e	30.65	7.11	23.66	20.78	22.64	24.98	33.33	0.47	30.18 - 31.12
5000-30-SL-AE	ADPf	MJ	2435.10	300.56	2268.96	2066.35	2206.14	2340.73	2714.04	19.50	2415.60 - 2454.60
	ADPe	kg Sb eq	2.150E-04	1.132E-06	2.147E-04	2.138E-04	2.145E-04	2.151E-04	2.157E-04	6.305E-08	2.149E-04 - 2.151E-04

Normal-Weight 5,000 psi - Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
5000-40-FA-AE	GWPT	kg CO ₂ e	337.24	21.46	322.16	307.61	317.30	326.76	353.88	1.39	335.85 - 338.63
	ODP	kg CFC11e	6.770E-06	1.334E-07	6.738E-06	6.643E-06	6.704E-06	6.775E-06	6.861E-06	7.433E-09	6.763E-06 - 6.777E-06
	AP	kg SO ₂ e	1.176	0.256	0.886	0.767	0.842	0.932	1.242	0.017	1.159 - 1.193
	EPM	kg N eq	0.180	0.066	0.112	0.084	0.101	0.123	0.200	0.004	0.176 - 0.184
	EPF	kg P eq	0.038	0.000	0.038	0.038	0.038	0.038	0.038	1.16E-05	0.038 - 0.038
	SFP	kg O ₃ e	26.18	7.22	17.88	15.10	16.85	19.33	27.81	0.48	25.70 - 26.66
5000-40-SL-AE	ADP _f	MJ	2396.06	293.00	2206.51	2000.53	2136.79	2270.63	2633.97	18.99	2377.07 - 2415.05
	ADP _e	kg Sb eq	2.196E-04	1.132E-06	2.193E-04	2.184E-04	2.191E-04	2.197E-04	2.203E-04	6.305E-08	2.195E-04 - 2.197E-04
	GWPT	kg CO ₂ e	335.29	21.62	321.08	306.83	316.58	326.51	353.25	1.40	333.89 - 336.69
	ODP	kg CFC11e	1.058E-05	1.334E-07	1.055E-05	1.045E-05	1.051E-05	1.058E-05	1.067E-05	7.433E-09	1.057E-05 - 1.059E-05
	AP	kg SO ₂ e	1.469	0.268	1.203	1.085	1.161	1.254	1.582	0.018	1.451 - 1.487
	EPM	kg N eq	0.176	0.069	0.114	0.085	0.104	0.126	0.207	0.005	0.171 - 0.181
5000-50-FA/SL-AE	EPF	kg P eq	0.042	0.000	0.042	0.042	0.042	0.042	0.042	1.16E-05	0.042 - 0.042
	SFP	kg O ₃ e	31.57	7.48	24.04	21.15	22.95	25.24	34.39	0.49	31.08 - 32.06
	ADP _f	MJ	2267.53	286.18	2089.24	1885.96	2021.01	2161.63	2504.02	18.54	2248.99 - 2286.07
	ADP _e	kg Sb eq	2.112E-04	1.132E-06	2.109E-04	2.100E-04	2.107E-04	2.113E-04	2.119E-04	6.305E-08	2.111E-04 - 2.113E-04
	GWPT	kg CO ₂ e	302.30	19.88	286.69	271.98	281.79	291.55	315.12	1.29	301.01 - 303.59
	ODP	kg CFC11e	8.926E-06	1.334E-07	8.894E-06	8.799E-06	8.860E-06	8.931E-06	9.016E-06	7.433E-09	8.919E-06 - 8.933E-06
5000-50-SL-AE	AP	kg SO ₂ e	1.369	0.260	1.073	0.950	1.027	1.116	1.433	0.017	1.352 - 1.386
	EPM	kg N eq	0.180	0.066	0.111	0.081	0.099	0.121	0.196	0.004	0.176 - 0.184
	EPF	kg P eq	0.037	0.000	0.037	0.037	0.037	0.037	0.037	1.16E-05	0.037 - 0.037
	SFP	kg O ₃ e	29.99	7.40	21.56	18.59	20.37	22.78	31.65	0.49	29.50 - 30.48
	ADP _f	MJ	2152.02	263.58	1954.82	1747.66	1882.10	2023.83	2321.55	17.01	2135.01 - 2169.03
	ADP _e	kg Sb eq	2.112E-04	1.132E-06	2.109E-04	2.100E-04	2.107E-04	2.113E-04	2.119E-04	6.305E-08	2.111E-04 - 2.113E-04
5000-50-SL-AE	GWPT	kg CO ₂ e	303.07	19.41	288.00	273.28	283.03	293.16	315.37	1.25	301.82 - 304.32
	ODP	kg CFC11e	1.072E-05	1.334E-07	1.069E-05	1.059E-05	1.065E-05	1.072E-05	1.081E-05	7.433E-09	1.071E-05 - 1.073E-05
	AP	kg SO ₂ e	1.506	0.263	1.223	1.096	1.177	1.267	1.584	0.017	1.489 - 1.523
	EPM	kg N eq	0.178	0.068	0.111	0.082	0.101	0.123	0.202	0.005	0.173 - 0.183
	EPF	kg P eq	0.039	0.000	0.039	0.039	0.039	0.039	0.039	1.16E-05	0.039 - 0.039
	SFP	kg O ₃ e	32.49	7.43	24.44	21.44	23.26	25.64	34.56	0.49	32.00 - 32.98
5000-50-SL-AE	ADP _f	MJ	2099.96	265.94	1907.54	1701.98	1837.66	1981.05	2279.92	17.17	2082.79 - 2117.13
	ADP _e	kg Sb eq	2.074E-04	1.132E-06	2.071E-04	2.062E-04	2.069E-04	2.075E-04	2.081E-04	6.305E-08	2.073E-04 - 2.075E-04

Normal-Weight 2,500 psi - Non-Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
2500-00-FA/SL	GWPT	kg CO ₂ e	253.19	15.94	245.21	231.45	240.77	249.67	267.10	0.99	252.20 - 254.18
	ODP	kg CFC11e	5.396E-06	1.334E-07	5.365E-06	5.269E-06	5.331E-06	5.401E-06	5.487E-06	7.433E-09	5.389E-06 - 5.403E-06
	AP	kg SO ₂ e	0.820	0.164	0.685	0.579	0.651	0.724	0.893	0.010	0.810 - 0.830
	EPM	kg N eq	0.110	0.042	0.079	0.054	0.071	0.087	0.129	0.003	0.107 - 0.113
	EPF	kg P eq	0.031	0.000	0.031	0.031	0.031	0.031	0.031	1.15E-05	0.031 - 0.031
	SFP	kg O ₃ e	18.26	4.18	14.54	12.21	13.78	15.48	19.71	0.27	17.99 - 18.53
	ADP _f	MJ	1631.71	225.37	1527.89	1335.35	1463.32	1588.81	1838.90	13.98	1617.73 - 1645.69
2500-20-FA	ADP _e	kg Sb eq	5.210E-05	1.132E-06	5.185E-05	5.092E-05	5.158E-05	5.216E-05	5.279E-05	6.304E-08	5.204E-05 - 5.216E-05
	GWPT	kg CO ₂ e	221.37	18.34	212.84	198.86	208.13	219.34	238.51	1.18	220.19 - 222.55
	ODP	kg CFC11e	4.595E-06	1.334E-07	4.564E-06	4.468E-06	4.530E-06	4.600E-06	4.686E-06	7.433E-09	4.588E-06 - 4.602E-06
	AP	kg SO ₂ e	0.783	0.244	0.637	0.520	0.592	0.692	0.971	0.016	0.767 - 0.799
	EPM	kg N eq	0.113	0.062	0.079	0.052	0.069	0.093	0.160	0.004	0.109 - 0.117
	EPF	kg P eq	0.027	0.000	0.027	0.027	0.027	0.027	0.027	1.16E-05	0.027 - 0.027
	SFP	kg O ₃ e	17.84	6.44	13.81	11.22	12.74	15.23	22.52	0.42	17.42 - 18.26
2500-30-FA	ADP _f	MJ	1489.38	251.28	1382.94	1182.45	1313.63	1472.16	1726.61	16.18	1473.20 - 1505.56
	ADP _e	kg Sb eq	4.684E-05	1.132E-06	4.659E-05	4.566E-05	4.632E-05	4.690E-05	4.754E-05	6.304E-08	4.678E-05 - 4.690E-05
	GWPT	kg CO ₂ e	204.17	18.88	195.04	180.90	190.34	201.49	221.64	1.22	202.95 - 205.39
	ODP	kg CFC11e	4.161E-06	1.334E-07	4.130E-06	4.034E-06	4.096E-06	4.166E-06	4.252E-06	7.433E-09	4.154E-06 - 4.168E-06
	AP	kg SO ₂ e	0.763	0.265	0.601	0.487	0.556	0.661	0.975	0.017	0.746 - 0.780
	EPM	kg N eq	0.114	0.063	0.077	0.050	0.066	0.091	0.160	0.004	0.110 - 0.118
	EPF	kg P eq	0.024	0.000	0.024	0.024	0.024	0.024	0.024	1.16E-05	0.024 - 0.024
2500-30-SL	SFP	kg O ₃ e	17.61	6.99	13.12	10.57	12.10	14.59	22.88	0.46	17.15 - 18.07
	ADP _f	MJ	1412.45	263.50	1294.19	1095.13	1228.20	1389.11	1662.45	17.01	1395.44 - 1429.46
	ADP _e	kg Sb eq	4.400E-05	1.132E-06	4.375E-05	4.282E-05	4.348E-05	4.406E-05	4.470E-05	6.305E-08	4.394E-05 - 4.406E-05
	GWPT	kg CO ₂ e	202.62	18.95	193.56	179.61	188.97	200.52	220.35	1.22	201.40 - 203.84
	ODP	kg CFC11e	5.621E-06	1.334E-07	5.590E-06	5.494E-06	5.556E-06	5.626E-06	5.712E-06	7.433E-09	5.614E-06 - 5.628E-06
	AP	kg SO ₂ e	0.878	0.257	0.724	0.608	0.679	0.785	1.081	0.017	0.861 - 0.895
	EPM	kg N eq	0.113	0.064	0.077	0.050	0.067	0.093	0.162	0.004	0.109 - 0.117
2500-30-SL	EPF	kg P eq	0.026	0.000	0.026	0.026	0.026	0.026	0.026	1.16E-05	0.026 - 0.026
	SFP	kg O ₃ e	19.71	7.16	15.48	12.75	14.43	16.91	25.36	0.47	19.24 - 20.18
	ADP _f	MJ	1368.70	261.24	1255.85	1054.51	1189.28	1352.78	1616.57	16.86	1351.84 - 1385.56
	ADP _e	kg Sb eq	4.609E-05	1.132E-06	4.584E-05	4.491E-05	4.557E-05	4.615E-05	4.679E-05	6.305E-08	4.603E-05 - 4.615E-05

Normal-Weight 2,500 psi - Non-Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
2500-40-FA	GWPT	kg CO ₂ e	186.01	18.69	176.23	161.94	171.58	182.47	202.38	1.21	184.80 - 187.22
	ODP	kg CFC11e	3.704E-06	1.334E-07	3.673E-06	3.577E-06	3.638E-06	3.709E-06	3.795E-06	7.433E-09	3.697E-06 - 3.711E-06
	AP	kg SO ₂ e	0.742	0.251	0.564	0.448	0.522	0.626	0.911	0.017	0.725 - 0.759
	EPM	kg N eq	0.116	0.063	0.075	0.047	0.065	0.090	0.156	0.004	0.112 - 0.120
	EPF	kg P eq	0.022	0.000	0.022	0.022	0.022	0.022	0.022	1.16E-05	0.022 - 0.022
	SFP	kg O ₃ e	17.37	6.73	12.37	9.80	11.47	13.89	21.65	0.44	16.93 - 17.81
	ADP _f	MJ	1331.24	267.45	1209.85	1004.28	1142.10	1292.87	1582.69	17.27	1313.97 - 1348.51
2500-40-SL	ADP _e	kg Sb eq	4.101E-05	1.132E-06	4.076E-05	3.982E-05	4.049E-05	4.107E-05	4.171E-05	6.305E-08	4.095E-05 - 4.107E-05
	GWPT	kg CO ₂ e	185.77	19.25	176.49	162.02	171.94	183.03	203.50	1.24	184.53 - 187.01
	ODP	kg CFC11e	5.696E-06	1.334E-07	5.665E-06	5.569E-06	5.631E-06	5.701E-06	5.787E-06	7.433E-09	5.689E-06 - 5.703E-06
	AP	kg SO ₂ e	0.897	0.242	0.728	0.615	0.688	0.796	1.059	0.016	0.881 - 0.913
	EPM	kg N eq	0.115	0.059	0.076	0.049	0.066	0.093	0.151	0.004	0.111 - 0.119
	EPF	kg P eq	0.024	0.000	0.024	0.024	0.024	0.024	0.024	1.16E-05	0.024 - 0.024
	SFP	kg O ₃ e	20.19	6.80	15.60	12.87	14.59	17.10	24.82	0.45	19.74 - 20.64
2500-50-FA/SL	ADP _f	MJ	1281.03	266.84	1162.52	960.33	1099.91	1248.04	1538.44	17.23	1263.80 - 1298.26
	ADP _e	kg Sb eq	4.409E-05	1.132E-06	4.384E-05	4.290E-05	4.357E-05	4.415E-05	4.479E-05	6.305E-08	4.403E-05 - 4.415E-05
	GWPT	kg CO ₂ e	168.14	18.74	158.17	143.62	153.53	163.71	184.41	1.21	166.93 - 169.35
	ODP	kg CFC11e	4.832E-06	1.334E-07	4.801E-06	4.705E-06	4.766E-06	4.837E-06	4.923E-06	7.433E-09	4.825E-06 - 4.839E-06
	AP	kg SO ₂ e	0.844	0.229	0.664	0.543	0.622	0.725	0.965	0.015	0.829 - 0.859
	EPM	kg N eq	0.117	0.058	0.075	0.047	0.065	0.090	0.147	0.004	0.113 - 0.121
	EPF	kg P eq	0.021	0.000	0.021	0.021	0.021	0.021	0.021	1.16E-05	0.021 - 0.021
2500-50-SL	SFP	kg O ₃ e	19.36	6.28	14.32	11.45	13.28	15.73	22.47	0.41	18.95 - 19.77
	ADP _f	MJ	1212.53	253.04	1086.58	882.97	1019.87	1158.69	1437.16	16.30	1196.23 - 1228.83
	ADP _e	kg Sb eq	4.052E-05	1.132E-06	4.026E-05	3.933E-05	4.000E-05	4.058E-05	4.122E-05	6.305E-08	4.046E-05 - 4.058E-05
	GWPT	kg CO ₂ e	168.91	18.46	159.05	144.66	154.63	164.79	184.90	1.19	167.72 - 170.10
	ODP	kg CFC11e	5.772E-06	1.334E-07	5.741E-06	5.645E-06	5.706E-06	5.777E-06	5.863E-06	7.433E-09	5.765E-06 - 5.779E-06
	AP	kg SO ₂ e	0.917	0.229	0.743	0.621	0.701	0.803	1.045	0.015	0.902 - 0.932
	EPM	kg N eq	0.116	0.057	0.076	0.047	0.066	0.091	0.146	0.004	0.112 - 0.120
	EPF	kg P eq	0.022	0.000	0.022	0.022	0.022	0.022	0.022	1.16E-05	0.022 - 0.022
	SFP	kg O ₃ e	20.68	6.17	15.83	12.96	14.80	17.30	23.79	0.41	20.27 - 21.09
	ADP _f	MJ	1193.36	252.58	1070.31	865.11	1005.58	1141.41	1419.40	16.27	1177.09 - 1209.63
	ADP _e	kg Sb eq	4.208E-05	1.132E-06	4.182E-05	4.089E-05	4.156E-05	4.214E-05	4.278E-05	6.305E-08	4.202E-05 - 4.214E-05

Normal-Weight 3,000 psi - Non-Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
3000-00-FA/SL	GWPT	kg CO ₂ e	276.34	15.96	267.99	254.09	263.54	272.40	289.80	0.99	275.35 - 277.33
	ODP	kg CFC11e	5.934E-06	1.334E-07	5.903E-06	5.807E-06	5.869E-06	5.939E-06	6.025E-06	7.433E-09	5.927E-06 - 5.941E-06
	AP	kg SO ₂ e	0.875	0.163	0.731	0.627	0.696	0.770	0.939	0.010	0.865 - 0.885
	EPM	kg N eq	0.115	0.042	0.082	0.058	0.073	0.090	0.131	0.003	0.112 - 0.118
	EPF	kg P eq	0.034	0.000	0.034	0.034	0.034	0.034	0.034	1.15E-05	0.034 - 0.034
	SFP	kg O ₃ e	19.40	4.13	15.47	13.08	14.69	16.41	20.49	0.26	19.14 - 19.66
	ADP _f	MJ	1751.41	224.96	1643.77	1450.39	1580.04	1704.08	1953.59	13.96	1737.45 - 1765.37
3000-20-FA	ADP _e	kg Sb eq	5.742E-05	1.132E-06	5.717E-05	5.624E-05	5.690E-05	5.748E-05	5.811E-05	6.304E-08	5.736E-05 - 5.748E-05
	GWPT	kg CO ₂ e	241.13	18.98	232.28	218.08	227.27	238.40	259.00	1.23	239.90 - 242.36
	ODP	kg CFC11e	5.047E-06	1.334E-07	5.016E-06	4.920E-06	4.982E-06	5.052E-06	5.138E-06	7.433E-09	5.040E-06 - 5.054E-06
	AP	kg SO ₂ e	0.834	0.252	0.677	0.560	0.631	0.731	1.026	0.017	0.817 - 0.851
	EPM	kg N eq	0.119	0.064	0.083	0.055	0.072	0.097	0.166	0.004	0.115 - 0.123
	EPF	kg P eq	0.029	0.000	0.029	0.029	0.029	0.029	0.029	1.16E-05	0.029 - 0.029
	SFP	kg O ₃ e	18.93	6.50	14.57	12.04	13.57	15.93	23.50	0.43	18.50 - 19.36
3000-30-FA	ADP _f	MJ	1593.96	256.74	1482.91	1281.85	1411.50	1567.57	1837.57	16.55	1577.41 - 1610.51
	ADP _e	kg Sb eq	5.161E-05	1.132E-06	5.136E-05	5.043E-05	5.109E-05	5.167E-05	5.231E-05	6.304E-08	5.155E-05 - 5.167E-05
	GWPT	kg CO ₂ e	222.10	19.26	212.46	198.24	207.62	218.66	239.74	1.24	220.86 - 223.34
	ODP	kg CFC11e	4.567E-06	1.334E-07	4.536E-06	4.440E-06	4.501E-06	4.572E-06	4.658E-06	7.433E-09	4.560E-06 - 4.574E-06
	AP	kg SO ₂ e	0.812	0.271	0.638	0.523	0.593	0.700	1.021	0.018	0.794 - 0.830
	EPM	kg N eq	0.121	0.069	0.081	0.054	0.070	0.095	0.174	0.005	0.116 - 0.126
	EPF	kg P eq	0.026	0.000	0.026	0.026	0.026	0.026	0.026	1.16E-05	0.026 - 0.026
3000-30-SL	SFP	kg O ₃ e	18.68	6.87	13.81	11.28	12.84	15.25	23.40	0.45	18.23 - 19.13
	ADP _f	MJ	1508.86	261.68	1387.27	1186.15	1316.36	1475.66	1750.46	16.88	1491.98 - 1525.74
	ADP _e	kg Sb eq	4.847E-05	1.132E-06	4.822E-05	4.728E-05	4.795E-05	4.853E-05	4.917E-05	6.305E-08	4.841E-05 - 4.853E-05
	GWPT	kg CO ₂ e	220.40	19.19	211.10	196.79	206.31	217.62	238.06	1.24	219.16 - 221.64
	ODP	kg CFC11e	6.183E-06	1.334E-07	6.152E-06	6.056E-06	6.117E-06	6.188E-06	6.274E-06	7.433E-09	6.176E-06 - 6.190E-06
	AP	kg SO ₂ e	0.940	0.271	0.775	0.659	0.729	0.835	1.157	0.018	0.922 - 0.958
	EPM	kg N eq	0.120	0.065	0.082	0.054	0.071	0.097	0.167	0.004	0.116 - 0.124
3000-30-SL	EPF	kg P eq	0.028	0.000	0.028	0.028	0.028	0.028	0.028	1.16E-05	0.028 - 0.028
	SFP	kg O ₃ e	21.00	7.12	16.41	13.82	15.38	17.92	26.34	0.47	20.53 - 21.47
	ADP _f	MJ	1460.46	268.33	1339.95	1138.51	1272.97	1435.92	1714.57	17.33	1443.13 - 1477.79
	ADP _e	kg Sb eq	5.077E-05	1.132E-06	5.052E-05	4.958E-05	5.025E-05	5.083E-05	5.147E-05	6.305E-08	5.071E-05 - 5.083E-05

Normal-Weight 3,000 psi - Non-Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
3000-40-FA	GWPT	kg CO ₂ e	202.02	18.49	191.63	177.30	186.94	197.61	217.43	1.19	200.83 - 203.21
	ODP	kg CFC11e	4.061E-06	1.334E-07	4.029E-06	3.934E-06	3.995E-06	4.066E-06	4.152E-06	7.433E-09	4.054E-06 - 4.068E-06
	AP	kg SO ₂ e	0.789	0.257	0.598	0.483	0.555	0.659	0.956	0.017	0.772 - 0.806
	EPM	kg N eq	0.123	0.063	0.079	0.052	0.068	0.093	0.161	0.004	0.119 - 0.127
	EPF	kg P eq	0.024	0.000	0.024	0.024	0.024	0.024	0.024	1.16E-05	0.024 - 0.024
	SFP	kg O ₃ e	18.41	6.86	13.01	10.52	12.08	14.48	22.61	0.45	17.96 - 18.86
	ADP _f	MJ	1419.02	264.54	1289.25	1085.27	1217.99	1372.77	1656.67	17.08	1401.94 - 1436.10
3000-40-SL	ADP _e	kg Sb eq	4.515E-05	1.132E-06	4.489E-05	4.396E-05	4.463E-05	4.521E-05	4.585E-05	6.305E-08	4.509E-05 - 4.521E-05
	GWPT	kg CO ₂ e	201.75	19.19	191.92	177.32	187.27	198.35	218.66	1.24	200.51 - 202.99
	ODP	kg CFC11e	6.266E-06	1.334E-07	6.235E-06	6.139E-06	6.200E-06	6.271E-06	6.357E-06	7.433E-09	6.259E-06 - 6.273E-06
	AP	kg SO ₂ e	0.961	0.256	0.782	0.665	0.739	0.846	1.136	0.017	0.944 - 0.978
	EPM	kg N eq	0.121	0.062	0.079	0.051	0.069	0.095	0.160	0.004	0.117 - 0.125
	EPF	kg P eq	0.026	0.000	0.026	0.026	0.026	0.026	0.026	1.16E-05	0.026 - 0.026
	SFP	kg O ₃ e	21.54	6.93	16.55	13.88	15.60	18.06	26.07	0.46	21.08 - 22.00
3000-50-FA/SL	ADP _f	MJ	1363.48	274.44	1239.88	1032.29	1173.19	1327.55	1623.09	17.75	1345.73 - 1381.23
	ADP _e	kg Sb eq	4.856E-05	1.132E-06	4.830E-05	4.737E-05	4.804E-05	4.862E-05	4.926E-05	6.305E-08	4.850E-05 - 4.862E-05
	GWPT	kg CO ₂ e	182.25	18.89	171.60	157.07	166.82	177.60	197.95	1.22	181.03 - 183.47
	ODP	kg CFC11e	5.309E-06	1.334E-07	5.277E-06	5.182E-06	5.243E-06	5.314E-06	5.400E-06	7.433E-09	5.302E-06 - 5.316E-06
	AP	kg SO ₂ e	0.902	0.238	0.707	0.585	0.665	0.765	1.024	0.016	0.886 - 0.918
	EPM	kg N eq	0.123	0.058	0.078	0.049	0.068	0.092	0.149	0.004	0.119 - 0.127
	EPF	kg P eq	0.023	0.000	0.023	0.023	0.023	0.023	0.023	1.16E-05	0.023 - 0.023
3000-50-SL	SFP	kg O ₃ e	20.62	6.59	15.17	12.35	14.18	16.62	23.94	0.43	20.19 - 21.05
	ADP _f	MJ	1287.70	262.92	1154.35	949.20	1084.63	1224.47	1522.42	16.97	1270.73 - 1304.67
	ADP _e	kg Sb eq	4.461E-05	1.132E-06	4.435E-05	4.342E-05	4.409E-05	4.467E-05	4.531E-05	6.305E-08	4.455E-05 - 4.467E-05
	GWPT	kg CO ₂ e	183.10	18.97	172.78	158.10	168.09	178.76	199.15	1.22	181.88 - 184.32
	ODP	kg CFC11e	6.349E-06	1.334E-07	6.317E-06	6.222E-06	6.283E-06	6.354E-06	6.440E-06	7.433E-09	6.342E-06 - 6.356E-06
	AP	kg SO ₂ e	0.982	0.235	0.794	0.672	0.753	0.855	1.106	0.015	0.967 - 0.997
	EPM	kg N eq	0.122	0.059	0.078	0.049	0.068	0.093	0.151	0.004	0.118 - 0.126
3000-50-SL	EPF	kg P eq	0.024	0.000	0.024	0.024	0.024	0.024	0.024	1.16E-05	0.024 - 0.024
	SFP	kg O ₃ e	22.07	6.40	16.84	13.92	15.77	18.22	25.18	0.42	21.65 - 22.49
	ADP _f	MJ	1266.49	256.45	1136.11	930.34	1067.49	1208.22	1490.60	16.53	1249.96 - 1283.02
	ADP _e	kg Sb eq	4.634E-05	1.132E-06	4.608E-05	4.515E-05	4.582E-05	4.640E-05	4.704E-05	6.305E-08	4.628E-05 - 4.640E-05

Normal-Weight 4,000 psi - Non-Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
4000-00-FA/SL	GWPT	kg CO ₂ e	330.17	15.75	320.90	307.03	316.58	325.31	342.35	0.98	329.19 - 331.15
	ODP	kg CFC11e	7.183E-06	1.334E-07	7.152E-06	7.056E-06	7.118E-06	7.188E-06	7.273E-06	7.433E-09	7.176E-06 - 7.190E-06
	AP	kg SO ₂ e	1.004	0.166	0.842	0.737	0.807	0.882	1.054	0.011	0.993 - 1.015
	EPM	kg N eq	0.128	0.042	0.089	0.065	0.082	0.098	0.139	0.003	0.125 - 0.131
	EPF	kg P eq	0.041	0.000	0.041	0.041	0.041	0.041	0.041	1.15E-05	0.041 - 0.041
	SFP	kg O ₃ e	22.05	4.11	17.66	15.13	16.76	18.56	22.47	0.26	21.79 - 22.31
4000-20-FA	ADP _f	MJ	2029.81	220.01	1911.45	1717.91	1849.94	1967.80	2213.14	13.63	2016.18 - 2043.44
	ADP _e	kg Sb eq	6.980E-05	1.132E-06	6.955E-05	6.862E-05	6.928E-05	6.986E-05	7.049E-05	6.304E-08	6.974E-05 - 6.986E-05
	GWPT	kg CO ₂ e	287.11	20.42	276.97	262.78	272.07	282.94	306.58	1.32	285.79 - 288.43
	ODP	kg CFC11e	6.099E-06	1.334E-07	6.068E-06	5.972E-06	6.033E-06	6.104E-06	6.190E-06	7.433E-09	6.092E-06 - 6.106E-06
	AP	kg SO ₂ e	0.954	0.261	0.770	0.660	0.727	0.823	1.144	0.017	0.937 - 0.971
	EPM	kg N eq	0.133	0.066	0.091	0.065	0.080	0.103	0.180	0.004	0.129 - 0.137
4000-30-FA	EPF	kg P eq	0.035	0.000	0.035	0.035	0.035	0.035	0.035	1.16E-05	0.035 - 0.035
	SFP	kg O ₃ e	21.48	6.74	16.35	13.81	15.37	17.66	25.71	0.44	21.04 - 21.92
	ADP _f	MJ	1837.20	282.30	1709.89	1508.02	1638.23	1793.37	2113.76	18.27	1818.93 - 1855.47
	ADP _e	kg Sb eq	6.269E-05	1.132E-06	6.244E-05	6.150E-05	6.217E-05	6.275E-05	6.339E-05	6.305E-08	6.263E-05 - 6.275E-05
	GWPT	kg CO ₂ e	263.83	20.31	252.63	238.50	247.93	259.09	282.01	1.32	262.51 - 265.15
	ODP	kg CFC11e	5.512E-06	1.334E-07	5.480E-06	5.385E-06	5.446E-06	5.517E-06	5.603E-06	7.433E-09	5.505E-06 - 5.519E-06
4000-30-SL	AP	kg SO ₂ e	0.927	0.268	0.722	0.611	0.683	0.781	1.107	0.018	0.909 - 0.945
	EPM	kg N eq	0.135	0.069	0.087	0.062	0.078	0.101	0.183	0.005	0.130 - 0.140
	EPF	kg P eq	0.032	0.000	0.032	0.032	0.032	0.032	0.032	1.16E-05	0.032 - 0.032
	SFP	kg O ₃ e	21.17	6.93	15.50	12.94	14.52	16.84	25.19	0.46	20.71 - 21.63
	ADP _f	MJ	1733.09	274.82	1594.27	1392.50	1522.38	1681.70	1982.39	17.77	1715.32 - 1750.86
	ADP _e	kg Sb eq	5.885E-05	1.132E-06	5.859E-05	5.766E-05	5.833E-05	5.891E-05	5.955E-05	6.305E-08	5.879E-05 - 5.891E-05
4000-30-SL	GWPT	kg CO ₂ e	261.74	19.88	251.34	236.77	246.18	257.73	279.31	1.29	260.45 - 263.03
	ODP	kg CFC11e	7.488E-06	1.334E-07	7.456E-06	7.361E-06	7.422E-06	7.493E-06	7.579E-06	7.433E-09	7.481E-06 - 7.495E-06
	AP	kg SO ₂ e	1.083	0.280	0.889	0.775	0.846	0.952	1.289	0.018	1.065 - 1.101
	EPM	kg N eq	0.134	0.071	0.089	0.062	0.079	0.104	0.186	0.005	0.129 - 0.139
	EPF	kg P eq	0.033	0.000	0.033	0.033	0.033	0.033	0.033	1.16E-05	0.033 - 0.033
	SFP	kg O ₃ e	24.01	6.98	18.66	16.02	17.65	20.02	28.34	0.46	23.55 - 24.47
4000-30-SL	ADP _f	MJ	1673.88	276.78	1542.25	1337.64	1470.00	1634.17	1929.71	17.90	1655.98 - 1691.78
	ADP _e	kg Sb eq	6.167E-05	1.132E-06	6.141E-05	6.048E-05	6.115E-05	6.173E-05	6.237E-05	6.305E-08	6.161E-05 - 6.173E-05

Normal-Weight 4,000 psi - Non-Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
4000-40-FA	GWPT	kg CO ₂ e	239.26	19.16	227.17	213.03	222.46	233.07	254.48	1.24	238.02 - 240.50
	ODP	kg CFC11e	4.893E-06	1.334E-07	4.861E-06	4.766E-06	4.827E-06	4.898E-06	4.984E-06	7.433E-09	4.886E-06 - 4.900E-06
	AP	kg SO ₂ e	0.898	0.271	0.673	0.558	0.637	0.735	1.060	0.018	0.880 - 0.916
	EPM	kg N eq	0.137	0.071	0.084	0.058	0.075	0.099	0.181	0.005	0.132 - 0.142
	EPF	kg P eq	0.028	0.000	0.028	0.028	0.028	0.028	0.028	1.16E-05	0.028 - 0.028
	SFP	kg O ₃ e	20.84	6.90	14.66	12.05	13.69	15.88	24.28	0.46	20.38 - 21.30
	ADP _f	MJ	1623.19	265.37	1473.05	1272.40	1402.54	1553.09	1846.84	17.13	1606.06 - 1640.32
4000-40-SL	ADP _e	kg Sb eq	5.479E-05	1.132E-06	5.453E-05	5.360E-05	5.427E-05	5.485E-05	5.549E-05	6.305E-08	5.473E-05 - 5.485E-05
	GWPT	kg CO ₂ e	238.93	19.37	227.77	213.12	222.86	233.81	254.87	1.25	237.68 - 240.18
	ODP	kg CFC11e	7.590E-06	1.334E-07	7.558E-06	7.463E-06	7.524E-06	7.595E-06	7.681E-06	7.433E-09	7.583E-06 - 7.597E-06
	AP	kg SO ₂ e	1.109	0.281	0.901	0.784	0.859	0.964	1.299	0.018	1.091 - 1.127
	EPM	kg N eq	0.135	0.067	0.087	0.059	0.076	0.102	0.175	0.004	0.131 - 0.139
	EPF	kg P eq	0.031	0.000	0.031	0.031	0.031	0.031	0.031	1.16E-05	0.031 - 0.031
	SFP	kg O ₃ e	24.67	7.03	18.85	16.24	17.88	20.31	28.64	0.46	24.21 - 25.13
	ADP _f	MJ	1555.24	271.52	1415.26	1207.11	1344.37	1498.76	1792.23	17.55	1537.69 - 1572.79
	ADP _e	kg Sb eq	5.896E-05	1.132E-06	5.870E-05	5.777E-05	5.844E-05	5.902E-05	5.966E-05	6.305E-08	5.890E-05 - 5.902E-05
	GWPT	kg CO ₂ e	215.07	19.05	202.80	188.22	197.94	208.51	229.46	1.23	213.84 - 216.30
4000-50-FA/SL	ODP	kg CFC11e	6.419E-06	1.334E-07	6.387E-06	6.292E-06	6.353E-06	6.424E-06	6.510E-06	7.433E-09	6.412E-06 - 6.426E-06
	AP	kg SO ₂ e	1.037	0.260	0.809	0.691	0.768	0.869	1.170	0.017	1.020 - 1.054
	EPM	kg N eq	0.138	0.065	0.084	0.057	0.075	0.099	0.171	0.004	0.134 - 0.142
	EPF	kg P eq	0.027	0.000	0.027	0.027	0.027	0.027	0.027	1.16E-05	0.027 - 0.027
	SFP	kg O ₃ e	23.54	7.09	17.11	14.47	16.18	18.49	27.01	0.47	23.07 - 24.01
	ADP _f	MJ	1462.54	269.56	1309.41	1100.22	1237.20	1388.84	1682.46	17.42	1445.12 - 1479.96
	ADP _e	kg Sb eq	5.413E-05	1.132E-06	5.387E-05	5.294E-05	5.361E-05	5.419E-05	5.483E-05	6.305E-08	5.407E-05 - 5.419E-05
	GWPT	kg CO ₂ e	216.12	19.44	204.25	189.46	199.26	210.24	231.34	1.26	214.86 - 217.38
4000-50-SL	ODP	kg CFC11e	7.691E-06	1.334E-07	7.659E-06	7.564E-06	7.625E-06	7.696E-06	7.782E-06	7.433E-09	7.684E-06 - 7.698E-06
	AP	kg SO ₂ e	1.135	0.259	0.915	0.796	0.874	0.976	1.274	0.017	1.118 - 1.152
	EPM	kg N eq	0.137	0.063	0.086	0.057	0.076	0.101	0.167	0.004	0.133 - 0.141
	EPF	kg P eq	0.028	0.000	0.028	0.028	0.028	0.028	0.028	1.16E-05	0.028 - 0.028
	SFP	kg O ₃ e	25.32	7.20	19.13	16.42	18.14	20.58	29.12	0.48	24.84 - 25.80
	ADP _f	MJ	1436.60	275.57	1288.62	1078.46	1216.00	1369.43	1671.76	17.82	1418.78 - 1454.42
	ADP _e	kg Sb eq	5.625E-05	1.132E-06	5.599E-05	5.506E-05	5.573E-05	5.631E-05	5.695E-05	6.305E-08	5.619E-05 - 5.631E-05

Normal-Weight 5,000 psi - Non-Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
5000-00-FA/SL	GWPT	kg CO ₂ e	410.67	15.36	399.94	386.32	395.70	404.83	420.71	0.95	409.72 - 411.62
	ODP	kg CFC11e	8.994E-06	1.334E-07	8.962E-06	8.867E-06	8.928E-06	8.999E-06	9.084E-06	7.433E-09	8.987E-06 - 9.001E-06
	AP	kg SO ₂ e	1.193	0.165	1.003	0.893	0.969	1.043	1.209	0.010	1.183 - 1.203
	EPM	kg N eq	0.149	0.042	0.104	0.079	0.097	0.113	0.153	0.003	0.146 - 0.152
	EPF	kg P eq	0.051	0.000	0.051	0.051	0.051	0.051	0.051	1.15E-05	0.051 - 0.051
	SFP	kg O ₃ e	25.78	4.18	20.62	17.87	19.83	21.43	25.41	0.27	25.51 - 26.05
5000-20-FA	ADPf	MJ	2491.56	216.87	2352.92	2164.28	2294.08	2420.38	2650.29	13.43	2478.13 - 2504.99
	ADPe	kg Sb eq	1.165E-04	1.132E-06	1.162E-04	1.153E-04	1.160E-04	1.166E-04	1.172E-04	6.304E-08	1.164E-04 - 1.166E-04
	GWPT	kg CO ₂ e	356.37	21.34	344.35	330.23	339.75	350.22	375.94	1.38	354.99 - 357.75
	ODP	kg CFC11e	7.622E-06	1.334E-07	7.590E-06	7.495E-06	7.556E-06	7.627E-06	7.713E-06	7.433E-09	7.615E-06 - 7.629E-06
	AP	kg SO ₂ e	1.130	0.269	0.909	0.799	0.870	0.959	1.300	0.018	1.112 - 1.148
	EPM	kg N eq	0.154	0.066	0.102	0.077	0.093	0.114	0.194	0.004	0.150 - 0.158
5000-30-FA	EPF	kg P eq	0.043	0.000	0.043	0.043	0.043	0.043	0.043	1.16E-05	0.043 - 0.043
	SFP	kg O ₃ e	25.05	7.08	18.89	16.16	18.02	20.16	28.74	0.47	24.58 - 25.52
	ADPf	MJ	2251.43	295.29	2097.83	1901.46	2034.18	2179.06	2535.63	19.15	2232.28 - 2270.58
	ADPe	kg Sb eq	1.090E-04	1.132E-06	1.087E-04	1.078E-04	1.085E-04	1.091E-04	1.097E-04	6.305E-08	1.089E-04 - 1.091E-04
	GWPT	kg CO ₂ e	327.02	22.24	313.74	299.86	309.45	319.34	347.48	1.45	325.57 - 328.47
	ODP	kg CFC11e	6.881E-06	1.334E-07	6.849E-06	6.754E-06	6.815E-06	6.886E-06	6.972E-06	7.433E-09	6.874E-06 - 6.888E-06
5000-30-SL	AP	kg SO ₂ e	1.096	0.268	0.851	0.740	0.819	0.904	1.240	0.018	1.078 - 1.114
	EPM	kg N eq	0.157	0.068	0.099	0.073	0.092	0.113	0.194	0.005	0.152 - 0.162
	EPF	kg P eq	0.039	0.000	0.039	0.039	0.039	0.039	0.039	1.16E-05	0.039 - 0.039
	SFP	kg O ₃ e	24.66	6.90	17.86	15.04	16.92	19.16	27.25	0.45	24.21 - 25.11
	ADPf	MJ	2121.63	297.81	1952.35	1760.30	1890.84	2032.59	2400.34	19.32	2102.31 - 2140.95
	ADPe	kg Sb eq	1.050E-04	1.132E-06	1.047E-04	1.038E-04	1.045E-04	1.051E-04	1.057E-04	6.305E-08	1.049E-04 - 1.051E-04
5000-30-SL	GWPT	kg CO ₂ e	324.14	21.56	311.37	297.48	307.13	317.61	343.60	1.40	322.74 - 325.54
	ODP	kg CFC11e	9.379E-06	1.334E-07	9.347E-06	9.252E-06	9.313E-06	9.384E-06	9.470E-06	7.433E-09	9.372E-06 - 9.386E-06
	AP	kg SO ₂ e	1.293	0.274	1.064	0.952	1.026	1.120	1.459	0.018	1.275 - 1.311
	EPM	kg N eq	0.155	0.070	0.101	0.075	0.092	0.114	0.197	0.005	0.150 - 0.160
	EPF	kg P eq	0.041	0.000	0.041	0.041	0.041	0.041	0.041	1.16E-05	0.041 - 0.041
	SFP	kg O ₃ e	28.26	7.11	21.76	19.08	20.92	23.17	31.67	0.47	27.79 - 28.73
5000-30-SL	ADPf	MJ	2041.50	291.74	1881.49	1685.86	1813.99	1964.70	2311.27	18.91	2022.59 - 2060.41
	ADPe	kg Sb eq	1.062E-04	1.132E-06	1.059E-04	1.050E-04	1.057E-04	1.063E-04	1.069E-04	6.305E-08	1.061E-04 - 1.063E-04

Normal-Weight 5,000 psi - Non-Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
5000-40-FA	GWPT	kg CO ₂ e	296.04	20.92	281.91	267.80	277.38	287.29	312.88	1.36	294.68 - 297.40
	ODP	kg CFC11e	6.098E-06	1.334E-07	6.066E-06	5.971E-06	6.032E-06	6.103E-06	6.189E-06	7.433E-09	6.091E-06 - 6.105E-06
	AP	kg SO ₂ e	1.061	0.263	0.795	0.681	0.757	0.847	1.170	0.017	1.044 - 1.078
	EPM	kg N eq	0.160	0.068	0.097	0.070	0.089	0.110	0.190	0.004	0.156 - 0.164
	EPF	kg P eq	0.035	0.000	0.035	0.035	0.035	0.035	0.035	1.16E-05	0.035 - 0.035
	SFP	kg O ₃ e	24.25	7.17	16.76	14.01	15.69	17.94	26.71	0.47	23.78 - 24.72
	ADP _f	MJ	1984.61	278.94	1806.44	1608.15	1738.82	1881.16	2211.67	18.05	1966.56 - 2002.66
5000-40-SL	ADP _e	kg Sb eq	1.007E-04	1.132E-06	1.004E-04	9.951E-05	1.002E-04	1.008E-04	1.014E-04	6.305E-08	1.006E-04 - 1.008E-04
	GWPT	kg CO ₂ e	295.29	20.09	282.00	267.80	277.30	287.92	311.06	1.30	293.99 - 296.59
	ODP	kg CFC11e	9.508E-06	1.334E-07	9.476E-06	9.381E-06	9.442E-06	9.513E-06	9.599E-06	7.433E-09	9.501E-06 - 9.515E-06
	AP	kg SO ₂ e	1.326	0.270	1.077	0.961	1.042	1.136	1.461	0.018	1.308 - 1.344
	EPM	kg N eq	0.157	0.071	0.099	0.072	0.090	0.113	0.196	0.005	0.152 - 0.162
	EPF	kg P eq	0.038	0.000	0.038	0.038	0.038	0.038	0.038	1.16E-05	0.038 - 0.038
	SFP	kg O ₃ e	29.08	7.34	22.13	19.41	21.23	23.42	32.43	0.48	28.60 - 29.56
5000-50-FA/SL	ADP _f	MJ	1891.49	272.32	1723.76	1522.37	1653.14	1806.86	2109.27	17.60	1873.89 - 1909.09
	ADP _e	kg Sb eq	1.028E-04	1.132E-06	1.025E-04	1.016E-04	1.023E-04	1.029E-04	1.035E-04	6.305E-08	1.027E-04 - 1.029E-04
	GWPT	kg CO ₂ e	265.29	18.48	250.81	236.37	245.80	256.21	276.58	1.19	264.10 - 266.48
	ODP	kg CFC11e	8.028E-06	1.334E-07	7.996E-06	7.901E-06	7.962E-06	8.033E-06	8.118E-06	7.433E-09	8.021E-06 - 8.035E-06
	AP	kg SO ₂ e	1.235	0.265	0.963	0.839	0.923	1.014	1.330	0.017	1.218 - 1.252
	EPM	kg N eq	0.161	0.068	0.097	0.069	0.088	0.110	0.189	0.005	0.156 - 0.166
	EPF	kg P eq	0.033	0.000	0.033	0.033	0.033	0.033	0.033	1.16E-05	0.033 - 0.033
5000-50-SL	SFP	kg O ₃ e	27.67	7.24	19.99	17.10	18.90	21.27	29.89	0.48	27.19 - 28.15
	ADP _f	MJ	1777.68	262.00	1594.98	1391.38	1523.04	1670.63	1960.22	16.91	1760.77 - 1794.59
	ADP _e	kg Sb eq	9.822E-05	1.132E-06	9.796E-05	9.703E-05	9.770E-05	9.828E-05	9.892E-05	6.305E-08	9.816E-05 - 9.828E-05
	GWPT	kg CO ₂ e	266.45	18.91	252.45	237.98	247.35	258.02	278.94	1.22	265.23 - 267.67
	ODP	kg CFC11e	9.636E-06	1.334E-07	9.604E-06	9.509E-06	9.570E-06	9.641E-06	9.727E-06	7.433E-09	9.629E-06 - 9.643E-06
	AP	kg SO ₂ e	1.359	0.267	1.098	0.975	1.057	1.152	1.470	0.018	1.341 - 1.377
	EPM	kg N eq	0.160	0.069	0.099	0.070	0.089	0.111	0.191	0.005	0.155 - 0.165
5000-50-SL	EPF	kg P eq	0.035	0.000	0.035	0.035	0.035	0.035	0.035	1.16E-05	0.035 - 0.035
	SFP	kg O ₃ e	29.91	7.38	22.49	19.66	21.51	23.77	32.74	0.49	29.42 - 30.40
	ADP _f	MJ	1741.47	268.11	1565.89	1358.91	1493.62	1643.25	1939.00	17.32	1724.15 - 1758.79
	ADP _e	kg Sb eq	9.939E-05	1.132E-06	9.913E-05	9.820E-05	9.887E-05	9.945E-05	1.001E-04	6.305E-08	9.933E-05 - 9.945E-05

High-Strength 6,000 psi - Non-Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
6000-00-FA/SL	GWPT	kg CO2e	449.66	15.33	438.53	424.83	433.96	443.28	459.09	0.95	448.71 - 450.61
	ODP	kg CFC11e	9.720E-06	1.334E-07	9.688E-06	9.593E-06	9.654E-06	9.725E-06	9.810E-06	7.433E-09	9.713E-06 - 9.727E-06
	AP	kg SO2e	1.290	0.170	1.087	0.976	1.057	1.129	1.302	0.011	1.279 - 1.301
	EPM	kg N eq	0.162	0.043	0.114	0.088	0.107	0.123	0.165	0.003	0.159 - 0.165
	EPF	kg P eq	0.055	0.000	0.055	0.055	0.055	0.055	0.055	1.15E-05	0.055 - 0.055
	SFP	kg O3e	27.40	4.36	21.93	19.02	21.12	22.75	26.87	0.28	27.12 - 27.68
6000-20-FA	ADPf	MJ	2822.05	220.89	2676.58	2484.40	2616.42	2746.05	2977.48	13.69	2808.36 - 2835.74
	ADPe	kg Sb eq	1.991E-04	1.132E-06	1.988E-04	1.979E-04	1.986E-04	1.992E-04	1.998E-04	6.304E-08	1.990E-04 - 1.992E-04
	GWPT	kg CO2e	391.26	21.78	378.59	364.34	373.91	384.07	411.00	1.41	389.85 - 392.67
	ODP	kg CFC11e	8.233E-06	1.334E-07	8.201E-06	8.106E-06	8.167E-06	8.238E-06	8.324E-06	7.433E-09	8.226E-06 - 8.240E-06
	AP	kg SO2e	1.223	0.273	0.990	0.872	0.950	1.041	1.379	0.018	1.205 - 1.241
	EPM	kg N eq	0.169	0.069	0.114	0.087	0.105	0.127	0.209	0.005	0.164 - 0.174
	EPF	kg P eq	0.046	0.000	0.046	0.046	0.046	0.046	0.046	1.16E-05	0.046 - 0.046
	SFP	kg O3e	26.63	7.25	20.09	17.19	19.06	21.40	30.00	0.48	26.15 - 27.11
	ADPf	MJ	2571.19	304.19	2412.48	2209.67	2346.29	2486.71	2862.35	19.75	2551.44 - 2590.94
	ADPe	kg Sb eq	1.949E-04	1.132E-06	1.946E-04	1.937E-04	1.944E-04	1.950E-04	1.956E-04	6.305E-08	1.948E-04 - 1.950E-04
6000-30-FA	GWPT	kg CO2e	359.69	22.07	345.86	331.72	341.26	351.24	378.97	1.43	358.26 - 361.12
	ODP	kg CFC11e	7.430E-06	1.334E-07	7.398E-06	7.303E-06	7.364E-06	7.435E-06	7.521E-06	7.433E-09	7.423E-06 - 7.437E-06
	AP	kg SO2e	1.187	0.270	0.928	0.812	0.890	0.980	1.313	0.018	1.169 - 1.205
	EPM	kg N eq	0.172	0.070	0.111	0.084	0.102	0.124	0.206	0.005	0.167 - 0.177
	EPF	kg P eq	0.042	0.000	0.042	0.042	0.042	0.042	0.042	1.16E-05	0.042 - 0.042
	SFP	kg O3e	26.22	7.20	18.93	16.03	17.98	20.18	28.80	0.47	25.75 - 26.69
	ADPf	MJ	2435.59	310.08	2261.35	2060.12	2197.87	2338.79	2723.87	20.14	2415.45 - 2455.73
	ADPe	kg Sb eq	1.926E-04	1.132E-06	1.923E-04	1.914E-04	1.921E-04	1.927E-04	1.933E-04	6.305E-08	1.925E-04 - 1.927E-04
	GWPT	kg CO2e	355.87	22.73	342.70	328.25	338.16	348.20	376.76	1.48	354.39 - 357.35
	ODP	kg CFC11e	1.014E-05	1.334E-07	1.011E-05	1.001E-05	1.007E-05	1.014E-05	1.023E-05	7.433E-09	1.013E-05 - 1.015E-05
6000-30-SL	AP	kg SO2e	1.397	0.276	1.148	1.037	1.115	1.206	1.548	0.018	1.379 - 1.415
	EPM	kg N eq	0.169	0.071	0.111	0.084	0.103	0.125	0.208	0.005	0.164 - 0.174
	EPF	kg P eq	0.044	0.000	0.044	0.044	0.044	0.044	0.044	1.16E-05	0.044 - 0.044
	SFP	kg O3e	30.09	7.14	23.23	20.35	22.25	24.60	32.96	0.47	29.62 - 30.56
	ADPf	MJ	2334.27	307.65	2169.48	1965.96	2102.81	2246.02	2624.31	19.98	2314.29 - 2354.25
	ADPe	kg Sb eq	1.880E-04	1.132E-06	1.877E-04	1.868E-04	1.875E-04	1.881E-04	1.887E-04	6.305E-08	1.879E-04 - 1.881E-04

High-Strength 6,000 psi - Non-Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
6000-40-FA	GWPT	kg CO ₂ e	326.36	21.70	311.34	296.89	306.78	316.49	343.54	1.41	324.95 - 327.77
	ODP	kg CFC11e	6.581E-06	1.334E-07	6.549E-06	6.454E-06	6.515E-06	6.586E-06	6.672E-06	7.433E-09	6.574E-06 - 6.588E-06
	AP	kg SO ₂ e	1.149	0.266	0.865	0.745	0.822	0.912	1.239	0.018	1.131 - 1.167
	EPM	kg N eq	0.176	0.068	0.109	0.081	0.099	0.121	0.201	0.004	0.172 - 0.180
	EPF	kg P eq	0.037	0.000	0.037	0.037	0.037	0.037	0.037	1.16E-05	0.037 - 0.037
	SFP	kg O ₃ e	25.78	7.35	17.70	14.88	16.63	19.00	27.86	0.48	25.30 - 26.26
6000-40-SL	ADP _f	MJ	2292.46	294.68	2104.96	1899.35	2036.06	2174.79	2534.38	19.11	2273.35 - 2311.57
	ADP _e	kg Sb eq	1.901E-04	1.132E-06	1.898E-04	1.889E-04	1.896E-04	1.902E-04	1.908E-04	6.305E-08	1.900E-04 - 1.902E-04
	GWPT	kg CO ₂ e	324.61	21.50	310.75	296.23	305.97	316.28	342.28	1.39	323.22 - 326.00
	ODP	kg CFC11e	1.028E-05	1.334E-07	1.025E-05	1.015E-05	1.021E-05	1.028E-05	1.037E-05	7.433E-09	1.027E-05 - 1.029E-05
	AP	kg SO ₂ e	1.433	0.271	1.170	1.052	1.133	1.223	1.556	0.018	1.415 - 1.451
	EPM	kg N eq	0.172	0.071	0.110	0.082	0.101	0.123	0.207	0.005	0.167 - 0.177
6000-50-FA/SL	EPF	kg P eq	0.041	0.000	0.041	0.041	0.041	0.041	0.041	1.16E-05	0.041 - 0.041
	SFP	kg O ₃ e	30.99	7.56	23.62	20.71	22.53	24.92	34.06	0.50	30.49 - 31.49
	ADP _f	MJ	2171.67	283.98	1996.29	1790.26	1924.28	2073.56	2401.21	18.39	2153.28 - 2190.06
	ADP _e	kg Sb eq	1.843E-04	1.132E-06	1.840E-04	1.831E-04	1.838E-04	1.844E-04	1.850E-04	6.305E-08	1.842E-04 - 1.844E-04
	GWPT	kg CO ₂ e	292.53	19.51	277.17	262.40	272.21	282.30	304.72	1.26	291.27 - 293.79
	ODP	kg CFC11e	8.673E-06	1.334E-07	8.641E-06	8.546E-06	8.607E-06	8.678E-06	8.763E-06	7.433E-09	8.666E-06 - 8.680E-06
6000-50-SL	AP	kg SO ₂ e	1.337	0.267	1.048	0.922	1.002	1.093	1.417	0.018	1.319 - 1.355
	EPM	kg N eq	0.176	0.068	0.108	0.078	0.097	0.119	0.198	0.005	0.171 - 0.181
	EPF	kg P eq	0.036	0.000	0.036	0.036	0.036	0.036	0.036	1.16E-05	0.036 - 0.036
	SFP	kg O ₃ e	29.47	7.57	21.25	18.21	20.09	22.46	31.59	0.50	28.97 - 29.97
	ADP _f	MJ	2057.74	266.01	1862.01	1656.48	1791.64	1934.78	2234.64	17.18	2040.56 - 2074.92
	ADP _e	kg Sb eq	1.831E-04	1.132E-06	1.828E-04	1.819E-04	1.826E-04	1.832E-04	1.838E-04	6.305E-08	1.830E-04 - 1.832E-04
6000-50-SL	GWPT	kg CO ₂ e	293.35	19.02	278.47	263.81	273.49	284.04	305.02	1.23	292.12 - 294.58
	ODP	kg CFC11e	1.042E-05	1.334E-07	1.039E-05	1.029E-05	1.035E-05	1.042E-05	1.051E-05	7.433E-09	1.041E-05 - 1.043E-05
	AP	kg SO ₂ e	1.469	0.271	1.192	1.061	1.148	1.241	1.564	0.018	1.451 - 1.487
	EPM	kg N eq	0.174	0.070	0.109	0.079	0.099	0.121	0.202	0.005	0.169 - 0.179
	EPF	kg P eq	0.038	0.000	0.038	0.038	0.038	0.038	0.038	1.16E-05	0.038 - 0.038
	SFP	kg O ₃ e	31.88	7.42	24.01	21.01	22.89	25.28	34.12	0.49	31.39 - 32.37
6000-50-SL	ADP _f	MJ	2009.08	268.98	1820.44	1613.70	1747.32	1898.27	2195.03	17.38	1991.70 - 2026.46
	ADP _e	kg Sb eq	1.805E-04	1.132E-06	1.802E-04	1.793E-04	1.800E-04	1.806E-04	1.812E-04	6.305E-08	1.804E-04 - 1.806E-04

High-Strength 8,000 psi - Non-Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
8000-00-FA/SL	GWPT	kg CO2e	518.34	15.67	505.90	492.49	501.56	510.95	527.43	0.97	517.37 - 519.31
	ODP	kg CFC11e	1.122E-05	1.334E-07	1.119E-05	1.109E-05	1.115E-05	1.122E-05	1.131E-05	7.433E-09	1.121E-05 - 1.123E-05
	AP	kg SO2e	1.455	0.175	1.231	1.113	1.196	1.273	1.446	0.011	1.444 - 1.466
	EPM	kg N eq	0.181	0.044	0.128	0.101	0.120	0.138	0.179	0.003	0.178 - 0.184
	EPF	kg P eq	0.063	0.000	0.063	0.063	0.063	0.063	0.063	1.15E-05	0.063 - 0.063
	SFP	kg O3e	30.61	4.51	24.43	21.48	23.53	25.34	29.55	0.29	30.32 - 30.90
	ADPf	MJ	3246.42	225.77	3087.50	2894.77	3027.31	3156.45	3397.90	14.01	3232.41 - 3260.43
8000-20-FA	ADPe	kg Sb eq	2.545E-04	1.132E-06	2.542E-04	2.533E-04	2.540E-04	2.546E-04	2.552E-04	6.304E-08	2.544E-04 - 2.546E-04
	GWPT	kg CO2e	450.67	22.40	436.63	422.25	432.09	442.03	470.15	1.46	449.21 - 452.13
	ODP	kg CFC11e	9.494E-06	1.334E-07	9.462E-06	9.367E-06	9.428E-06	9.499E-06	9.585E-06	7.433E-09	9.487E-06 - 9.501E-06
	AP	kg SO2e	1.378	0.276	1.116	0.991	1.072	1.166	1.503	0.018	1.360 - 1.396
	EPM	kg N eq	0.189	0.073	0.128	0.098	0.117	0.141	0.226	0.005	0.184 - 0.194
	EPF	kg P eq	0.053	0.000	0.053	0.053	0.053	0.053	0.053	1.16E-05	0.053 - 0.053
	SFP	kg O3e	29.71	7.61	22.28	19.22	21.47	23.49	32.80	0.50	29.21 - 30.21
8000-30-FA	ADPf	MJ	2957.41	310.64	2779.09	2576.36	2717.31	2849.01	3244.24	20.18	2937.23 - 2977.59
	ADPe	kg Sb eq	2.508E-04	1.132E-06	2.505E-04	2.496E-04	2.503E-04	2.509E-04	2.515E-04	6.305E-08	2.507E-04 - 2.509E-04
	GWPT	kg CO2e	414.10	22.58	398.65	383.96	394.03	403.73	432.29	1.47	412.63 - 415.57
	ODP	kg CFC11e	8.562E-06	1.334E-07	8.530E-06	8.435E-06	8.496E-06	8.567E-06	8.653E-06	7.433E-09	8.555E-06 - 8.569E-06
	AP	kg SO2e	1.336	0.271	1.042	0.923	0.997	1.101	1.420	0.018	1.318 - 1.354
	EPM	kg N eq	0.193	0.070	0.124	0.096	0.113	0.138	0.218	0.005	0.188 - 0.198
	EPF	kg P eq	0.048	0.000	0.048	0.048	0.048	0.048	0.048	1.16E-05	0.048 - 0.048
8000-30-SL	SFP	kg O3e	29.22	7.51	20.88	18.01	20.05	22.26	31.34	0.50	28.72 - 29.72
	ADPf	MJ	2801.19	317.89	2609.07	2400.74	2539.47	2676.57	3080.62	20.66	2780.53 - 2821.85
	ADPe	kg Sb eq	2.488E-04	1.132E-06	2.485E-04	2.476E-04	2.483E-04	2.489E-04	2.495E-04	6.305E-08	2.487E-04 - 2.489E-04
	GWPT	kg CO2e	409.57	23.10	395.00	380.40	390.35	400.27	429.65	1.50	408.07 - 411.07
	ODP	kg CFC11e	1.170E-05	1.334E-07	1.167E-05	1.157E-05	1.163E-05	1.170E-05	1.179E-05	7.433E-09	1.169E-05 - 1.171E-05
	AP	kg SO2e	1.580	0.278	1.306	1.185	1.263	1.356	1.700	0.018	1.562 - 1.598
	EPM	kg N eq	0.189	0.072	0.124	0.096	0.114	0.137	0.223	0.005	0.184 - 0.194
8000-30-SL	EPF	kg P eq	0.051	0.000	0.051	0.051	0.051	0.051	0.051	1.16E-05	0.051 - 0.051
	SFP	kg O3e	33.73	7.47	25.95	22.97	24.94	27.34	36.17	0.49	33.24 - 34.22
	ADPf	MJ	2680.72	320.32	2497.89	2291.18	2430.54	2572.25	2974.14	20.83	2659.89 - 2701.55
	ADPe	kg Sb eq	2.415E-04	1.132E-06	2.412E-04	2.403E-04	2.410E-04	2.416E-04	2.422E-04	6.305E-08	2.414E-04 - 2.416E-04

High-Strength 8,000 psi - Non-Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
8000-40-FA	GWPT	kg CO ₂ e	375.49	22.00	358.59	343.77	353.49	363.44	390.91	1.43	374.06 - 376.92
	ODP	kg CFC11e	7.578E-06	1.334E-07	7.546E-06	7.451E-06	7.512E-06	7.583E-06	7.669E-06	7.433E-09	7.571E-06 - 7.585E-06
	AP	kg SO ₂ e	1.292	0.265	0.970	0.845	0.924	1.019	1.335	0.017	1.275 - 1.309
	EPM	kg N eq	0.197	0.066	0.121	0.092	0.110	0.133	0.208	0.004	0.193 - 0.201
	EPF	kg P eq	0.042	0.000	0.042	0.042	0.042	0.042	0.042	1.16E-05	0.042 - 0.042
	SFP	kg O ₃ e	28.71	7.37	19.44	16.52	18.42	20.91	29.50	0.49	28.22 - 29.20
8000-40-SL	ADPf	MJ	2636.29	310.42	2422.75	2217.21	2351.79	2484.84	2884.23	20.16	2616.13 - 2656.45
	ADPe	kg Sb eq	2.467E-04	1.132E-06	2.464E-04	2.455E-04	2.462E-04	2.468E-04	2.474E-04	6.305E-08	2.466E-04 - 2.468E-04
	GWPT	kg CO ₂ e	373.32	22.46	357.82	343.02	352.93	363.00	391.00	1.46	371.86 - 374.78
	ODP	kg CFC11e	1.186E-05	1.334E-07	1.183E-05	1.173E-05	1.179E-05	1.186E-05	1.195E-05	7.433E-09	1.185E-05 - 1.187E-05
	AP	kg SO ₂ e	1.622	0.278	1.327	1.201	1.280	1.376	1.715	0.018	1.604 - 1.640
	EPM	kg N eq	0.192	0.071	0.123	0.093	0.111	0.134	0.218	0.005	0.187 - 0.197
	EPF	kg P eq	0.047	0.000	0.047	0.047	0.047	0.047	0.047	1.16E-05	0.047 - 0.047
	SFP	kg O ₃ e	34.77	7.72	26.33	23.38	25.24	27.70	37.01	0.51	34.26 - 35.28
	ADPf	MJ	2492.16	306.98	2295.91	2084.65	2225.53	2368.64	2741.76	19.93	2472.23 - 2512.09
	ADPe	kg Sb eq	2.372E-04	1.132E-06	2.369E-04	2.360E-04	2.367E-04	2.373E-04	2.379E-04	6.305E-08	2.371E-04 - 2.373E-04
8000-50-FA/SL	GWPT	kg CO ₂ e	336.18	21.72	318.83	303.95	313.89	323.60	350.64	1.41	334.77 - 337.59
	ODP	kg CFC11e	1.000E-05	1.334E-07	9.968E-06	9.873E-06	9.934E-06	1.000E-05	1.009E-05	7.433E-09	9.993E-06 - 1.001E-05
	AP	kg SO ₂ e	1.509	0.268	1.180	1.051	1.128	1.223	1.547	0.018	1.491 - 1.527
	EPM	kg N eq	0.197	0.069	0.120	0.088	0.107	0.131	0.208	0.005	0.192 - 0.202
	EPF	kg P eq	0.041	0.000	0.041	0.041	0.041	0.041	0.041	1.16E-05	0.041 - 0.041
	SFP	kg O ₃ e	32.99	7.51	23.62	20.43	22.36	24.85	33.66	0.50	32.49 - 33.49
	ADPf	MJ	2361.94	282.38	2144.33	1933.87	2072.26	2209.51	2545.73	18.28	2343.66 - 2380.22
	ADPe	kg Sb eq	2.372E-04	1.132E-06	2.369E-04	2.360E-04	2.367E-04	2.373E-04	2.379E-04	6.305E-08	2.371E-04 - 2.373E-04
	GWPT	kg CO ₂ e	337.06	20.95	320.50	305.22	315.36	325.30	350.36	1.36	335.70 - 338.42
	ODP	kg CFC11e	1.203E-05	1.334E-07	1.200E-05	1.190E-05	1.196E-05	1.203E-05	1.212E-05	7.433E-09	1.202E-05 - 1.204E-05
8000-50-SL	AP	kg SO ₂ e	1.664	0.274	1.348	1.220	1.299	1.394	1.727	0.018	1.646 - 1.682
	EPM	kg N eq	0.195	0.069	0.121	0.090	0.109	0.132	0.211	0.005	0.190 - 0.200
	EPF	kg P eq	0.043	0.000	0.043	0.043	0.043	0.043	0.043	1.16E-05	0.043 - 0.043
	SFP	kg O ₃ e	35.81	7.77	26.81	23.69	25.58	28.11	37.38	0.51	35.30 - 36.32
	ADPf	MJ	2303.59	275.69	2093.13	1879.37	2018.64	2164.35	2475.47	17.83	2285.76 - 2321.42
	ADPe	kg Sb eq	2.329E-04	1.132E-06	2.326E-04	2.317E-04	2.324E-04	2.330E-04	2.336E-04	6.305E-08	2.328E-04 - 2.330E-04

High-Strength 10,000 psi - Non-Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
10000-00-FA/SL	GWPT	kg CO2e	656.33	16.66	641.34	627.64	636.61	646.70	664.35	1.04	655.29 - 657.37
	ODP	kg CFC11e	1.432E-05	1.334E-07	1.429E-05	1.419E-05	1.425E-05	1.432E-05	1.441E-05	7.433E-09	1.431E-05 - 1.433E-05
	AP	kg SO2e	1.786	0.183	1.514	1.389	1.473	1.562	1.733	0.012	1.774 - 1.798
	EPM	kg N eq	0.217	0.047	0.152	0.123	0.143	0.164	0.205	0.003	0.214 - 0.220
	EPF	kg P eq	0.080	0.000	0.080	0.080	0.080	0.080	0.080	1.15E-05	0.080 - 0.080
	SFP	kg O3e	37.23	5.06	29.80	26.38	28.44	30.78	35.25	0.32	36.91 - 37.55
	ADPf	MJ	4030.92	233.29	3840.83	3649.71	3773.60	3909.08	4165.84	14.50	4016.42 - 4045.42
10000-20-FA	ADPe	kg Sb eq	3.265E-04	1.132E-06	3.262E-04	3.253E-04	3.260E-04	3.266E-04	3.272E-04	6.305E-08	3.264E-04 - 3.266E-04
	GWPT	kg CO2e	569.36	23.50	552.11	537.86	547.39	557.37	587.83	1.53	567.83 - 570.89
	ODP	kg CFC11e	1.211E-05	1.334E-07	1.208E-05	1.198E-05	1.204E-05	1.211E-05	1.220E-05	7.433E-09	1.210E-05 - 1.212E-05
	AP	kg SO2e	1.687	0.278	1.358	1.233	1.317	1.411	1.748	0.018	1.669 - 1.705
	EPM	kg N eq	0.227	0.071	0.149	0.120	0.142	0.162	0.246	0.005	0.222 - 0.232
	EPF	kg P eq	0.068	0.000	0.068	0.068	0.068	0.068	0.068	1.16E-05	0.068 - 0.068
	SFP	kg O3e	36.07	7.65	26.99	23.61	25.95	28.12	37.20	0.50	35.57 - 36.57
10000-30-FA	ADPf	MJ	3659.44	319.15	3442.87	3237.40	3374.05	3512.17	3919.34	20.75	3638.69 - 3680.19
	ADPe	kg Sb eq	3.218E-04	1.132E-06	3.215E-04	3.206E-04	3.213E-04	3.219E-04	3.225E-04	6.306E-08	3.217E-04 - 3.219E-04
	GWPT	kg CO2e	522.35	23.54	503.36	488.42	498.11	508.36	538.39	1.53	520.82 - 523.88
	ODP	kg CFC11e	1.091E-05	1.334E-07	1.088E-05	1.078E-05	1.084E-05	1.091E-05	1.100E-05	7.433E-09	1.090E-05 - 1.092E-05
	AP	kg SO2e	1.633	0.279	1.263	1.146	1.224	1.329	1.659	0.018	1.615 - 1.651
	EPM	kg N eq	0.232	0.072	0.145	0.116	0.136	0.160	0.242	0.005	0.227 - 0.237
	EPF	kg P eq	0.061	0.000	0.061	0.061	0.061	0.061	0.061	1.16E-05	0.061 - 0.061
10000-30-SL	SFP	kg O3e	35.45	7.82	24.98	21.99	24.19	26.50	35.84	0.52	34.93 - 35.97
	ADPf	MJ	3458.64	327.32	3220.47	3007.55	3147.74	3285.45	3705.12	21.30	3437.34 - 3479.94
	ADPe	kg Sb eq	3.192E-04	1.132E-06	3.189E-04	3.180E-04	3.187E-04	3.193E-04	3.199E-04	6.306E-08	3.191E-04 - 3.193E-04
	GWPT	kg CO2e	516.53	24.24	498.59	483.32	493.72	504.33	534.48	1.58	514.95 - 518.11
	ODP	kg CFC11e	1.495E-05	1.334E-07	1.492E-05	1.482E-05	1.488E-05	1.495E-05	1.504E-05	7.433E-09	1.494E-05 - 1.496E-05
	AP	kg SO2e	1.947	0.291	1.602	1.477	1.558	1.663	2.011	0.019	1.928 - 1.966
	EPM	kg N eq	0.228	0.076	0.147	0.117	0.137	0.161	0.251	0.005	0.223 - 0.233
10000-30-SL	EPF	kg P eq	0.065	0.000	0.065	0.065	0.065	0.065	0.065	1.16E-05	0.065 - 0.065
	SFP	kg O3e	41.24	8.01	31.40	28.36	30.68	32.95	42.57	0.53	40.71 - 41.77
	ADPf	MJ	3303.79	337.95	3080.82	2865.09	3007.08	3147.18	3581.97	22.01	3281.78 - 3325.80
	ADPe	kg Sb eq	3.099E-04	1.132E-06	3.096E-04	3.087E-04	3.094E-04	3.100E-04	3.106E-04	6.306E-08	3.098E-04 - 3.100E-04

High-Strength 10,000 psi - Non-Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
10000-40-FA	GWPT	kg CO ₂ e	472.72	23.39	451.34	436.78	446.49	456.81	486.43	1.52	471.20 - 474.24
	ODP	kg CFC11e	9.645E-06	1.334E-07	9.613E-06	9.517E-06	9.579E-06	9.649E-06	9.736E-06	7.433E-09	9.638E-06 - 9.652E-06
	AP	kg SO ₂ e	1.576	0.268	1.173	1.048	1.126	1.228	1.542	0.018	1.558 - 1.594
	EPM	kg N eq	0.237	0.069	0.141	0.112	0.131	0.155	0.232	0.005	0.232 - 0.242
	EPF	kg P eq	0.054	0.000	0.054	0.054	0.054	0.054	0.054	1.16E-05	0.054 - 0.054
	SFP	kg O ₃ e	34.78	7.36	23.14	20.10	22.18	24.76	33.04	0.49	34.29 - 35.27
	ADP _f	MJ	3246.68	326.36	2974.72	2772.03	2907.15	3050.73	3465.82	21.23	3225.45 - 3267.91
10000-40-SL	ADP _e	kg Sb eq	3.165E-04	1.132E-06	3.162E-04	3.153E-04	3.160E-04	3.166E-04	3.172E-04	6.306E-08	3.164E-04 - 3.166E-04
	GWPT	kg CO ₂ e	469.93	23.86	450.47	435.25	445.39	456.13	485.66	1.55	468.38 - 471.48
	ODP	kg CFC11e	1.515E-05	1.334E-07	1.512E-05	1.502E-05	1.508E-05	1.515E-05	1.524E-05	7.433E-09	1.514E-05 - 1.516E-05
	AP	kg SO ₂ e	2.001	0.274	1.633	1.501	1.581	1.689	2.003	0.018	1.983 - 2.019
	EPM	kg N eq	0.231	0.072	0.144	0.112	0.132	0.158	0.238	0.005	0.226 - 0.236
	EPF	kg P eq	0.059	0.000	0.059	0.059	0.059	0.059	0.059	1.16E-05	0.059 - 0.059
	SFP	kg O ₃ e	42.58	7.72	32.00	28.79	31.00	33.52	42.39	0.51	42.07 - 43.09
10000-50-FA/SL	ADP _f	MJ	3061.41	329.02	2817.58	2604.44	2743.14	2885.27	3303.77	21.41	3040.00 - 3082.82
	ADP _e	kg Sb eq	3.044E-04	1.132E-06	3.041E-04	3.032E-04	3.039E-04	3.045E-04	3.051E-04	6.306E-08	3.043E-04 - 3.045E-04
	GWPT	kg CO ₂ e	422.20	23.04	400.03	385.09	395.09	406.18	433.82	1.50	420.70 - 423.70
	ODP	kg CFC11e	1.276E-05	1.334E-07	1.273E-05	1.263E-05	1.269E-05	1.276E-05	1.285E-05	7.433E-09	1.275E-05 - 1.277E-05
	AP	kg SO ₂ e	1.856	0.248	1.442	1.314	1.390	1.491	1.771	0.016	1.840 - 1.872
	EPM	kg N eq	0.238	0.066	0.140	0.109	0.128	0.152	0.225	0.004	0.234 - 0.242
	EPF	kg P eq	0.051	0.000	0.051	0.051	0.051	0.051	0.051	1.16E-05	0.051 - 0.051
10000-50-SL	SFP	kg O ₃ e	40.29	7.13	28.36	25.26	27.26	29.99	37.74	0.47	39.82 - 40.76
	ADP _f	MJ	2894.03	321.48	2615.63	2401.81	2544.71	2699.07	3082.76	20.90	2873.13 - 2914.93
	ADP _e	kg Sb eq	3.043E-04	1.132E-06	3.040E-04	3.031E-04	3.038E-04	3.044E-04	3.050E-04	6.306E-08	3.042E-04 - 3.044E-04
	GWPT	kg CO ₂ e	423.32	23.45	402.32	386.94	397.17	407.76	436.62	1.53	421.79 - 424.85
	ODP	kg CFC11e	1.536E-05	1.334E-07	1.533E-05	1.523E-05	1.529E-05	1.536E-05	1.545E-05	7.433E-09	1.535E-05 - 1.537E-05
	AP	kg SO ₂ e	2.054	0.261	1.658	1.528	1.608	1.710	2.009	0.017	2.037 - 2.071
	EPM	kg N eq	0.235	0.068	0.141	0.110	0.128	0.153	0.229	0.005	0.230 - 0.240
	EPF	kg P eq	0.054	0.000	0.054	0.054	0.054	0.054	0.054	1.16E-05	0.054 - 0.054
	SFP	kg O ₃ e	43.91	7.40	32.53	29.29	31.35	34.08	42.26	0.49	43.42 - 44.40
	ADP _f	MJ	2819.03	322.43	2553.86	2337.40	2483.30	2632.68	3021.82	20.97	2798.06 - 2840.00
	ADP _e	kg Sb eq	2.988E-04	1.132E-06	2.985E-04	2.976E-04	2.983E-04	2.989E-04	2.995E-04	6.306E-08	2.987E-04 - 2.989E-04

High-Strength 12,000 psi - Non-Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
12000-00-FA/SL	GWPT	kg CO ₂ e	745.16	17.24	728.38	714.79	723.63	734.34	752.44	1.07	744.09 - 746.23
	ODP	kg CFC11e	1.632E-05	1.334E-07	1.629E-05	1.619E-05	1.625E-05	1.632E-05	1.641E-05	7.433E-09	1.631E-05 - 1.633E-05
	AP	kg SO ₂ e	2.000	0.192	1.697	1.569	1.650	1.743	1.929	0.012	1.988 - 2.012
	EPM	kg N eq	0.240	0.050	0.168	0.138	0.156	0.179	0.224	0.003	0.237 - 0.243
	EPF	kg P eq	0.091	0.000	0.091	0.091	0.091	0.091	0.091	1.15E-05	0.091 - 0.091
	SFP	kg O ₃ e	41.50	5.29	33.17	29.62	31.65	34.34	38.79	0.34	41.16 - 41.84
	ADP _f	MJ	4535.90	243.67	4321.33	4133.55	4250.88	4392.46	4668.32	15.17	4520.73 - 4551.07
12000-20-FA	ADP _e	kg Sb eq	3.729E-04	1.132E-06	3.726E-04	3.717E-04	3.724E-04	3.730E-04	3.736E-04	6.305E-08	3.728E-04 - 3.730E-04
	GWPT	kg CO ₂ e	645.75	23.46	626.31	612.32	621.20	631.79	662.03	1.53	644.22 - 647.28
	ODP	kg CFC11e	1.379E-05	1.334E-07	1.376E-05	1.366E-05	1.372E-05	1.379E-05	1.388E-05	7.433E-09	1.378E-05 - 1.380E-05
	AP	kg SO ₂ e	1.886	0.278	1.517	1.392	1.484	1.574	1.909	0.018	1.868 - 1.904
	EPM	kg N eq	0.251	0.072	0.164	0.134	0.156	0.178	0.261	0.005	0.246 - 0.256
	EPF	kg P eq	0.077	0.000	0.077	0.077	0.077	0.077	0.077	1.16E-05	0.077 - 0.077
	SFP	kg O ₃ e	40.17	7.85	29.96	26.49	28.77	31.13	40.37	0.52	39.65 - 40.69
12000-30-FA	ADP _f	MJ	4111.33	339.89	3866.08	3663.87	3792.67	3937.88	4382.69	22.14	4089.19 - 4133.47
	ADP _e	kg Sb eq	3.675E-04	1.132E-06	3.672E-04	3.663E-04	3.670E-04	3.676E-04	3.682E-04	6.306E-08	3.674E-04 - 3.676E-04
	GWPT	kg CO ₂ e	592.02	23.82	570.77	555.97	565.02	575.67	606.34	1.55	590.47 - 593.57
	ODP	kg CFC11e	1.242E-05	1.334E-07	1.239E-05	1.229E-05	1.235E-05	1.242E-05	1.251E-05	7.433E-09	1.241E-05 - 1.243E-05
	AP	kg SO ₂ e	1.824	0.292	1.408	1.286	1.373	1.473	1.824	0.019	1.805 - 1.843
	EPM	kg N eq	0.257	0.073	0.159	0.129	0.151	0.174	0.257	0.005	0.252 - 0.262
	EPF	kg P eq	0.069	0.000	0.069	0.069	0.069	0.069	0.069	1.16E-05	0.069 - 0.069
12000-30-SL	SFP	kg O ₃ e	39.45	7.65	27.80	24.56	26.82	29.34	38.04	0.51	38.94 - 39.96
	ADP _f	MJ	3881.83	338.75	3614.05	3403.46	3533.76	3677.93	4120.48	22.06	3859.77 - 3903.89
	ADP _e	kg Sb eq	3.645E-04	1.132E-06	3.642E-04	3.633E-04	3.640E-04	3.646E-04	3.652E-04	6.306E-08	3.644E-04 - 3.646E-04
	GWPT	kg CO ₂ e	585.37	24.76	565.35	549.90	559.88	570.53	602.03	1.61	583.76 - 586.98
	ODP	kg CFC11e	1.703E-05	1.334E-07	1.700E-05	1.690E-05	1.696E-05	1.703E-05	1.712E-05	7.433E-09	1.702E-05 - 1.704E-05
	AP	kg SO ₂ e	2.183	0.295	1.793	1.670	1.751	1.861	2.209	0.019	2.164 - 2.202
	EPM	kg N eq	0.252	0.076	0.160	0.129	0.151	0.176	0.262	0.005	0.247 - 0.257
12000-30-SL	EPF	kg P eq	0.073	0.000	0.073	0.073	0.073	0.073	0.073	1.16E-05	0.073 - 0.073
	SFP	kg O ₃ e	46.08	8.24	35.01	31.87	34.18	36.61	46.45	0.54	45.54 - 46.62
	ADP _f	MJ	3704.85	343.50	3453.83	3233.36	3378.02	3521.02	3959.74	22.38	3682.47 - 3727.23
	ADP _e	kg Sb eq	3.539E-04	1.132E-06	3.536E-04	3.527E-04	3.534E-04	3.540E-04	3.546E-04	6.306E-08	3.538E-04 - 3.540E-04

High-Strength 12,000 psi - Non-Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
12000-40-FA	GWPT	kg CO2e	535.31	23.39	511.25	496.30	506.57	516.96	545.95	1.52	533.79 - 536.83
	ODP	kg CFC11e	1.097E-05	1.334E-07	1.094E-05	1.084E-05	1.090E-05	1.097E-05	1.106E-05	7.433E-09	1.096E-05 - 1.098E-05
	AP	kg SO2e	1.759	0.287	1.299	1.175	1.254	1.363	1.700	0.019	1.740 - 1.778
	EPM	kg N eq	0.263	0.073	0.154	0.125	0.144	0.169	0.252	0.005	0.258 - 0.268
	EPF	kg P eq	0.061	0.000	0.061	0.061	0.061	0.061	0.061	1.16E-05	0.061 - 0.061
	SFP	kg O3e	38.70	7.62	25.66	22.40	24.59	27.20	35.80	0.50	38.20 - 39.20
12000-40-SL	ADPf	MJ	3639.58	326.68	3335.56	3126.52	3265.70	3409.05	3821.01	21.25	3618.33 - 3660.83
	ADPe	kg Sb eq	3.615E-04	1.132E-06	3.612E-04	3.603E-04	3.610E-04	3.616E-04	3.622E-04	6.306E-08	3.614E-04 - 3.616E-04
	GWPT	kg CO2e	532.11	24.43	510.37	494.71	504.99	515.76	546.19	1.59	530.52 - 533.70
	ODP	kg CFC11e	1.727E-05	1.334E-07	1.724E-05	1.714E-05	1.720E-05	1.727E-05	1.736E-05	7.433E-09	1.726E-05 - 1.728E-05
	AP	kg SO2e	2.245	0.284	1.828	1.696	1.780	1.887	2.216	0.019	2.226 - 2.264
	EPM	kg N eq	0.256	0.074	0.157	0.126	0.146	0.172	0.254	0.005	0.251 - 0.261
12000-50-FA/SL	EPF	kg P eq	0.068	0.000	0.068	0.068	0.068	0.068	0.068	1.16E-05	0.068 - 0.068
	SFP	kg O3e	47.60	7.80	35.57	32.35	34.61	37.28	46.05	0.51	47.09 - 48.11
	ADPf	MJ	3427.83	341.45	3147.89	2935.19	3076.20	3226.14	3655.39	22.24	3405.59 - 3450.07
	ADPe	kg Sb eq	3.476E-04	1.132E-06	3.473E-04	3.464E-04	3.471E-04	3.477E-04	3.483E-04	6.306E-08	3.475E-04 - 3.477E-04
	GWPT	kg CO2e	477.56	23.33	452.88	437.37	447.74	458.93	486.62	1.52	476.04 - 479.08
	ODP	kg CFC11e	1.454E-05	1.334E-07	1.451E-05	1.441E-05	1.447E-05	1.454E-05	1.463E-05	7.433E-09	1.453E-05 - 1.455E-05
12000-50-SL	AP	kg SO2e	2.079	0.267	1.609	1.477	1.561	1.670	1.967	0.018	2.061 - 2.097
	EPM	kg N eq	0.264	0.070	0.151	0.121	0.141	0.167	0.243	0.005	0.259 - 0.269
	EPF	kg P eq	0.058	0.000	0.058	0.058	0.058	0.058	0.058	1.16E-05	0.058 - 0.058
	SFP	kg O3e	44.99	7.29	31.46	28.27	30.37	33.06	41.05	0.48	44.51 - 45.47
	ADPf	MJ	3236.53	333.55	2918.01	2706.57	2852.00	3005.75	3410.59	21.71	3214.82 - 3258.24
	ADPe	kg Sb eq	3.475E-04	1.132E-06	3.472E-04	3.463E-04	3.470E-04	3.476E-04	3.482E-04	6.306E-08	3.474E-04 - 3.476E-04
12000-50-SL	GWPT	kg CO2e	478.85	23.89	454.95	439.51	449.95	461.14	489.82	1.56	477.29 - 480.41
	ODP	kg CFC11e	1.751E-05	1.334E-07	1.748E-05	1.738E-05	1.744E-05	1.751E-05	1.760E-05	7.433E-09	1.750E-05 - 1.752E-05
	AP	kg SO2e	2.306	0.265	1.858	1.726	1.805	1.916	2.212	0.017	2.289 - 2.323
	EPM	kg N eq	0.260	0.071	0.153	0.122	0.141	0.168	0.244	0.005	0.255 - 0.265
	EPF	kg P eq	0.062	0.000	0.062	0.062	0.062	0.062	0.062	1.16E-05	0.062 - 0.062
	SFP	kg O3e	49.13	7.67	36.20	32.96	35.14	37.86	46.41	0.51	48.62 - 49.64
12000-50-SL	ADPf	MJ	3150.81	340.00	2848.26	2629.02	2777.64	2934.71	3344.10	22.14	3128.67 - 3172.95
	ADPe	kg Sb eq	3.412E-04	1.132E-06	3.409E-04	3.400E-04	3.407E-04	3.413E-04	3.419E-04	6.306E-08	3.411E-04 - 3.413E-04

Structural Lightweight 3,000 psi - Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
3000-00-FA/SL-AE	GWPT	kg CO2e	304.33	15.36	295.73	282.09	291.55	300.18	316.64	0.95	303.38 - 305.28
	ODP	kg CFC11e	6.456E-06	1.334E-07	6.425E-06	6.329E-06	6.391E-06	6.461E-06	6.546E-06	7.433E-09	6.449E-06 - 6.463E-06
	AP	kg SO2e	0.936	0.158	0.788	0.686	0.753	0.827	0.989	0.010	0.926 - 0.946
	EPM	kg N eq	0.123	0.041	0.087	0.064	0.080	0.096	0.137	0.003	0.120 - 0.126
	EPF	kg P eq	0.037	0.000	0.037	0.037	0.037	0.037	0.037	1.15E-05	0.037 - 0.037
	SFP	kg O3e	20.28	3.91	16.27	13.83	15.43	17.12	20.84	0.25	20.03 - 20.53
	ADPf	MJ	1993.35	214.22	1881.85	1692.42	1824.28	1941.58	2176.01	13.25	1980.10 - 2006.60
3000-20-FA-AE	ADPe	kg Sb eq	1.238E-04	1.132E-06	1.235E-04	1.226E-04	1.233E-04	1.239E-04	1.245E-04	6.304E-08	1.237E-04 - 1.239E-04
	GWPT	kg CO2e	266.15	19.24	256.85	243.02	252.12	262.67	284.66	1.24	264.91 - 267.39
	ODP	kg CFC11e	5.485E-06	1.334E-07	5.454E-06	5.358E-06	5.420E-06	5.490E-06	5.576E-06	7.433E-09	5.478E-06 - 5.492E-06
	AP	kg SO2e	0.892	0.250	0.724	0.615	0.682	0.780	1.078	0.016	0.876 - 0.908
	EPM	kg N eq	0.128	0.063	0.090	0.064	0.079	0.102	0.174	0.004	0.124 - 0.132
	EPF	kg P eq	0.031	0.000	0.031	0.031	0.031	0.031	0.031	1.16E-05	0.031 - 0.031
	SFP	kg O3e	19.77	6.43	15.15	12.66	14.17	16.37	24.05	0.42	19.35 - 20.19
3000-30-FA-AE	ADPf	MJ	1828.45	260.97	1713.43	1515.54	1642.30	1790.84	2082.06	16.84	1811.61 - 1845.29
	ADPe	kg Sb eq	1.207E-04	1.132E-06	1.204E-04	1.195E-04	1.202E-04	1.208E-04	1.214E-04	6.304E-08	1.206E-04 - 1.208E-04
	GWPT	kg CO2e	245.51	19.32	235.42	221.41	230.68	241.50	263.11	1.25	244.26 - 246.76
	ODP	kg CFC11e	4.961E-06	1.334E-07	4.930E-06	4.834E-06	4.895E-06	4.966E-06	5.052E-06	7.433E-09	4.954E-06 - 4.968E-06
	AP	kg SO2e	0.869	0.259	0.682	0.575	0.643	0.741	1.054	0.017	0.852 - 0.886
	EPM	kg N eq	0.130	0.067	0.087	0.061	0.077	0.101	0.178	0.004	0.126 - 0.134
	EPF	kg P eq	0.028	0.000	0.028	0.028	0.028	0.028	0.028	1.16E-05	0.028 - 0.028
3000-30-SL-AE	SFP	kg O3e	19.50	6.65	14.35	11.86	13.41	15.69	23.61	0.44	19.06 - 19.94
	ADPf	MJ	1739.31	263.12	1613.79	1416.05	1543.74	1698.42	1984.73	16.98	1722.33 - 1756.29
	ADPe	kg Sb eq	1.190E-04	1.132E-06	1.187E-04	1.178E-04	1.185E-04	1.191E-04	1.197E-04	6.305E-08	1.189E-04 - 1.191E-04
	GWPT	kg CO2e	243.13	18.97	233.51	219.35	228.61	239.63	260.29	1.22	241.91 - 244.35
	ODP	kg CFC11e	6.728E-06	1.334E-07	6.697E-06	6.601E-06	6.662E-06	6.733E-06	6.819E-06	7.433E-09	6.721E-06 - 6.735E-06
	AP	kg SO2e	1.006	0.266	0.830	0.718	0.788	0.892	1.208	0.018	0.988 - 1.024
	EPM	kg N eq	0.128	0.068	0.087	0.061	0.077	0.102	0.179	0.004	0.124 - 0.132
3000-30-SL-AE	EPF	kg P eq	0.030	0.000	0.030	0.030	0.030	0.030	0.030	1.16E-05	0.030 - 0.030
	SFP	kg O3e	22.04	6.68	17.16	14.64	16.24	18.55	26.44	0.44	21.60 - 22.48
	ADPf	MJ	1675.03	260.51	1556.17	1352.84	1483.89	1637.41	1916.79	16.81	1658.22 - 1691.84
	ADPe	kg Sb eq	1.165E-04	1.132E-06	1.162E-04	1.153E-04	1.160E-04	1.166E-04	1.172E-04	6.305E-08	1.164E-04 - 1.166E-04

Structural Lightweight 3,000 psi - Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
3000-40-FA-AE	GWPT	kg CO ₂ e	223.73	18.21	212.99	198.68	208.07	218.50	238.34	1.17	222.56 - 224.90
	ODP	kg CFC11e	4.408E-06	1.334E-07	4.376E-06	4.281E-06	4.342E-06	4.413E-06	4.499E-06	7.433E-09	4.401E-06 - 4.415E-06
	AP	kg SO ₂ e	0.844	0.262	0.642	0.530	0.601	0.698	1.015	0.017	0.827 - 0.861
	EPM	kg N eq	0.132	0.066	0.085	0.059	0.076	0.099	0.173	0.004	0.128 - 0.136
	EPF	kg P eq	0.025	0.000	0.025	0.025	0.025	0.025	0.025	1.16E-05	0.025 - 0.025
	SFP	kg O ₃ e	19.21	6.70	13.56	11.08	12.60	14.84	22.93	0.44	18.77 - 19.65
	ADP _f	MJ	1645.22	254.32	1509.73	1308.88	1439.68	1585.45	1863.28	16.39	1628.83 - 1661.61
3000-40-SL-AE	ADP _e	kg Sb eq	1.172E-04	1.132E-06	1.169E-04	1.160E-04	1.167E-04	1.173E-04	1.179E-04	6.305E-08	1.171E-04 - 1.173E-04
	GWPT	kg CO ₂ e	222.73	18.37	212.64	198.21	207.73	218.45	238.09	1.18	221.55 - 223.91
	ODP	kg CFC11e	6.819E-06	1.334E-07	6.788E-06	6.692E-06	6.753E-06	6.824E-06	6.910E-06	7.433E-09	6.812E-06 - 6.826E-06
	AP	kg SO ₂ e	1.030	0.257	0.842	0.727	0.799	0.902	1.202	0.017	1.013 - 1.047
	EPM	kg N eq	0.130	0.062	0.086	0.059	0.076	0.101	0.168	0.004	0.126 - 0.134
	EPF	kg P eq	0.028	0.000	0.028	0.028	0.028	0.028	0.028	1.16E-05	0.028 - 0.028
	SFP	kg O ₃ e	22.62	6.77	17.32	14.84	16.38	18.81	26.76	0.45	22.17 - 23.07
3000-50-FA/SL-AE	ADP _f	MJ	1568.93	262.11	1443.05	1238.46	1370.70	1523.47	1805.79	16.91	1552.02 - 1585.84
	ADP _e	kg Sb eq	1.141E-04	1.132E-06	1.138E-04	1.129E-04	1.136E-04	1.142E-04	1.148E-04	6.305E-08	1.140E-04 - 1.142E-04
	GWPT	kg CO ₂ e	201.73	18.45	190.49	176.14	185.86	196.08	216.35	1.19	200.54 - 202.92
	ODP	kg CFC11e	5.772E-06	1.334E-07	5.740E-06	5.645E-06	5.706E-06	5.777E-06	5.863E-06	7.433E-09	5.765E-06 - 5.779E-06
	AP	kg SO ₂ e	0.966	0.246	0.759	0.644	0.720	0.818	1.099	0.016	0.950 - 0.982
	EPM	kg N eq	0.132	0.061	0.084	0.057	0.075	0.098	0.162	0.004	0.128 - 0.136
	EPF	kg P eq	0.024	0.000	0.024	0.024	0.024	0.024	0.024	1.16E-05	0.024 - 0.024
3000-50-SL-AE	SFP	kg O ₃ e	21.62	6.77	15.89	13.20	14.93	17.17	25.19	0.45	21.17 - 22.07
	ADP _f	MJ	1493.38	262.61	1353.66	1149.86	1282.58	1430.40	1719.82	16.95	1476.43 - 1510.33
	ADP _e	kg Sb eq	1.130E-04	1.132E-06	1.127E-04	1.118E-04	1.125E-04	1.131E-04	1.137E-04	6.305E-08	1.129E-04 - 1.131E-04
	GWPT	kg CO ₂ e	202.33	18.64	191.55	177.08	186.79	197.11	217.62	1.20	201.13 - 203.53
	ODP	kg CFC11e	6.910E-06	1.334E-07	6.878E-06	6.783E-06	6.844E-06	6.915E-06	7.001E-06	7.433E-09	6.903E-06 - 6.917E-06
	AP	kg SO ₂ e	1.053	0.243	0.853	0.735	0.813	0.914	1.184	0.016	1.037 - 1.069
	EPM	kg N eq	0.131	0.059	0.085	0.057	0.075	0.099	0.159	0.004	0.127 - 0.135
	EPF	kg P eq	0.026	0.000	0.026	0.026	0.026	0.026	0.026	1.16E-05	0.026 - 0.026
	SFP	kg O ₃ e	23.21	6.68	17.70	14.91	16.71	19.00	26.72	0.44	22.77 - 23.65
	ADP _f	MJ	1462.82	261.86	1328.08	1123.22	1255.09	1403.99	1691.35	16.90	1445.92 - 1479.72
	ADP _e	kg Sb eq	1.117E-04	1.132E-06	1.114E-04	1.105E-04	1.112E-04	1.118E-04	1.124E-04	6.305E-08	1.116E-04 - 1.118E-04

Structural Lightweight 4,000 psi - Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
4000-00-FA/SL-AE	GWPT	kg CO2e	376.21	15.08	366.18	352.77	362.06	370.90	386.67	0.93	375.28 - 377.14
	ODP	kg CFC11e	8.085E-06	1.334E-07	8.054E-06	7.958E-06	8.019E-06	8.090E-06	8.175E-06	7.433E-09	8.078E-06 - 8.092E-06
	AP	kg SO2e	1.109	0.156	0.934	0.830	0.902	0.975	1.131	0.010	1.099 - 1.119
	EPM	kg N eq	0.142	0.040	0.100	0.076	0.094	0.110	0.148	0.003	0.139 - 0.145
	EPF	kg P eq	0.046	0.000	0.046	0.046	0.046	0.046	0.046	1.15E-05	0.046 - 0.046
	SFP	kg O3e	23.75	4.03	19.03	16.38	18.20	19.82	23.63	0.26	23.49 - 24.01
4000-20-FA-AE	ADPf	MJ	2393.50	212.05	2265.83	2078.16	2206.42	2327.79	2555.96	13.11	2380.39 - 2406.61
	ADPe	kg Sb eq	1.562E-04	1.132E-06	1.559E-04	1.550E-04	1.557E-04	1.563E-04	1.569E-04	6.304E-08	1.561E-04 - 1.563E-04
	GWPT	kg CO2e	327.87	20.49	316.66	302.88	312.23	322.40	347.05	1.33	326.54 - 329.20
	ODP	kg CFC11e	6.857E-06	1.334E-07	6.825E-06	6.730E-06	6.791E-06	6.862E-06	6.948E-06	7.433E-09	6.850E-06 - 6.864E-06
	AP	kg SO2e	1.053	0.258	0.852	0.746	0.812	0.902	1.226	0.017	1.036 - 1.070
	EPM	kg N eq	0.147	0.065	0.100	0.075	0.091	0.112	0.189	0.004	0.143 - 0.151
4000-30-FA-AE	EPF	kg P eq	0.039	0.000	0.039	0.039	0.039	0.039	0.039	1.16E-05	0.039 - 0.039
	SFP	kg O3e	23.11	6.80	17.47	14.91	16.71	18.70	27.03	0.45	22.66 - 23.56
	ADPf	MJ	2184.70	290.10	2042.17	1845.53	1978.75	2122.67	2470.04	18.80	2165.90 - 2203.50
	ADPe	kg Sb eq	1.522E-04	1.132E-06	1.519E-04	1.510E-04	1.517E-04	1.523E-04	1.529E-04	6.305E-08	1.521E-04 - 1.523E-04
	GWPT	kg CO2e	301.74	21.13	289.74	275.84	285.29	295.28	321.30	1.37	300.37 - 303.11
	ODP	kg CFC11e	6.193E-06	1.334E-07	6.161E-06	6.066E-06	6.127E-06	6.198E-06	6.284E-06	7.433E-09	6.186E-06 - 6.200E-06
4000-30-SL-AE	AP	kg SO2e	1.023	0.259	0.800	0.694	0.766	0.855	1.175	0.017	1.006 - 1.040
	EPM	kg N eq	0.150	0.066	0.098	0.073	0.089	0.111	0.190	0.004	0.146 - 0.154
	EPF	kg P eq	0.035	0.000	0.035	0.035	0.035	0.035	0.035	1.16E-05	0.035 - 0.035
	SFP	kg O3e	22.76	6.74	16.56	13.91	15.69	17.89	25.86	0.44	22.32 - 23.20
	ADPf	MJ	2071.84	288.59	1921.48	1726.30	1856.88	1996.33	2349.41	18.70	2053.14 - 2090.54
	ADPe	kg Sb eq	1.501E-04	1.132E-06	1.498E-04	1.489E-04	1.496E-04	1.502E-04	1.508E-04	6.305E-08	1.500E-04 - 1.502E-04
4000-30-SL-AE	GWPT	kg CO2e	298.72	21.34	287.34	273.04	282.76	293.35	318.71	1.38	297.34 - 300.10
	ODP	kg CFC11e	8.431E-06	1.334E-07	8.399E-06	8.304E-06	8.365E-06	8.436E-06	8.522E-06	7.433E-09	8.424E-06 - 8.438E-06
	AP	kg SO2e	1.198	0.266	0.988	0.878	0.949	1.043	1.371	0.018	1.180 - 1.216
	EPM	kg N eq	0.148	0.068	0.099	0.073	0.090	0.113	0.192	0.004	0.144 - 0.152
	EPF	kg P eq	0.037	0.000	0.037	0.037	0.037	0.037	0.037	1.16E-05	0.037 - 0.037
	SFP	kg O3e	25.97	6.81	20.08	17.56	19.18	21.42	29.61	0.45	25.52 - 26.42
4000-30-SL-AE	ADPf	MJ	1990.46	279.32	1849.09	1645.59	1778.19	1929.24	2246.94	18.07	1972.39 - 2008.53
	ADPe	kg Sb eq	1.470E-04	1.132E-06	1.467E-04	1.458E-04	1.465E-04	1.471E-04	1.477E-04	6.305E-08	1.469E-04 - 1.471E-04

Structural Lightweight 4,000 psi - Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
4000-40-FA-AE	GWPT	kg CO ₂ e	274.16	19.91	261.25	247.38	256.69	266.67	290.50	1.29	272.87 - 275.45
	ODP	kg CFC11e	5.492E-06	1.334E-07	5.460E-06	5.365E-06	5.426E-06	5.497E-06	5.583E-06	7.433E-09	5.485E-06 - 5.499E-06
	AP	kg SO ₂ e	0.991	0.254	0.747	0.637	0.714	0.799	1.111	0.017	0.974 - 1.008
	EPM	kg N eq	0.153	0.066	0.096	0.070	0.088	0.109	0.186	0.004	0.149 - 0.157
	EPF	kg P eq	0.031	0.000	0.031	0.031	0.031	0.031	0.031	1.16E-05	0.031 - 0.031
	SFP	kg O ₃ e	22.39	6.98	15.59	12.90	14.61	16.84	25.27	0.46	21.93 - 22.85
4000-40-SL-AE	ADP _f	MJ	1952.71	264.85	1790.20	1593.34	1720.59	1864.92	2168.84	17.10	1935.61 - 1969.81
	ADP _e	kg Sb eq	1.478E-04	1.132E-06	1.475E-04	1.466E-04	1.473E-04	1.479E-04	1.485E-04	6.305E-08	1.477E-04 - 1.479E-04
	GWPT	kg CO ₂ e	272.89	19.13	260.93	246.59	256.06	266.46	288.05	1.24	271.65 - 274.13
	ODP	kg CFC11e	8.546E-06	1.334E-07	8.514E-06	8.419E-06	8.480E-06	8.551E-06	8.637E-06	7.433E-09	8.539E-06 - 8.553E-06
	AP	kg SO ₂ e	1.227	0.266	1.003	0.885	0.965	1.058	1.379	0.018	1.209 - 1.245
	EPM	kg N eq	0.150	0.070	0.098	0.070	0.089	0.111	0.193	0.005	0.145 - 0.155
4000-50-FA/SL-AE	EPF	kg P eq	0.034	0.000	0.034	0.034	0.034	0.034	0.034	1.16E-05	0.034 - 0.034
	SFP	kg O ₃ e	26.71	6.99	20.41	17.79	19.45	21.63	30.19	0.46	26.25 - 27.17
	ADP _f	MJ	1856.12	267.04	1705.37	1503.51	1633.92	1782.89	2081.72	17.25	1838.87 - 1873.37
	ADP _e	kg Sb eq	1.439E-04	1.132E-06	1.436E-04	1.427E-04	1.434E-04	1.440E-04	1.446E-04	6.305E-08	1.438E-04 - 1.440E-04
	GWPT	kg CO ₂ e	246.30	18.37	233.04	218.73	228.12	238.39	258.75	1.18	245.12 - 247.48
	ODP	kg CFC11e	7.221E-06	1.334E-07	7.189E-06	7.094E-06	7.155E-06	7.226E-06	7.311E-06	7.433E-09	7.214E-06 - 7.228E-06
4000-50-SL-AE	AP	kg SO ₂ e	1.147	0.256	0.900	0.782	0.862	0.952	1.258	0.017	1.130 - 1.164
	EPM	kg N eq	0.153	0.066	0.095	0.067	0.086	0.107	0.184	0.004	0.149 - 0.157
	EPF	kg P eq	0.030	0.000	0.030	0.030	0.030	0.030	0.030	1.16E-05	0.030 - 0.030
	SFP	kg O ₃ e	25.45	7.10	18.49	15.71	17.49	19.66	28.31	0.47	24.98 - 25.92
	ADP _f	MJ	1760.46	259.43	1591.86	1390.70	1522.89	1667.91	1955.37	16.73	1743.73 - 1777.19
	ADP _e	kg Sb eq	1.425E-04	1.132E-06	1.422E-04	1.413E-04	1.420E-04	1.426E-04	1.432E-04	6.305E-08	1.424E-04 - 1.426E-04
4000-50-SL-AE	GWPT	kg CO ₂ e	247.06	18.73	234.16	219.68	229.28	239.79	260.33	1.21	245.85 - 248.27
	ODP	kg CFC11e	8.661E-06	1.334E-07	8.629E-06	8.534E-06	8.595E-06	8.666E-06	8.752E-06	7.433E-09	8.654E-06 - 8.668E-06
	AP	kg SO ₂ e	1.257	0.262	1.019	0.901	0.980	1.071	1.388	0.017	1.240 - 1.274
	EPM	kg N eq	0.152	0.067	0.097	0.068	0.087	0.109	0.186	0.004	0.148 - 0.156
	EPF	kg P eq	0.032	0.000	0.032	0.032	0.032	0.032	0.032	1.16E-05	0.032 - 0.032
	SFP	kg O ₃ e	27.46	7.27	20.75	18.00	19.83	21.98	30.91	0.48	26.98 - 27.94
4000-50-SL-AE	ADP _f	MJ	1721.77	265.19	1559.35	1353.80	1490.97	1637.55	1929.22	17.12	1704.65 - 1738.89
	ADP _e	kg Sb eq	1.409E-04	1.132E-06	1.406E-04	1.397E-04	1.404E-04	1.410E-04	1.416E-04	6.305E-08	1.408E-04 - 1.410E-04

Structural Lightweight 5,000 psi - Air-Entrained

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
5000-00-FA/SL-AE	GWPT	kg CO2e	464.16	15.23	452.85	439.38	448.41	457.80	473.41	0.94	463.22 - 465.10
	ODP	kg CFC11e	1.000E-05	1.334E-07	9.968E-06	9.873E-06	9.934E-06	1.000E-05	1.009E-05	7.433E-09	9.993E-06 - 1.001E-05
	AP	kg SO2e	1.321	0.166	1.116	1.005	1.086	1.158	1.323	0.010	1.311 - 1.331
	EPM	kg N eq	0.166	0.042	0.117	0.092	0.111	0.127	0.167	0.003	0.163 - 0.169
	EPF	kg P eq	0.056	0.000	0.056	0.056	0.056	0.056	0.056	1.15E-05	0.056 - 0.056
	SFP	kg O3e	27.87	4.32	22.30	19.44	21.43	23.11	27.20	0.27	27.60 - 28.14
5000-20-FA-AE	ADPf	MJ	2937.80	217.50	2790.27	2603.45	2730.71	2860.16	3089.70	13.47	2924.33 - 2951.27
	ADPe	kg Sb eq	2.265E-04	1.132E-06	2.262E-04	2.253E-04	2.260E-04	2.266E-04	2.272E-04	6.304E-08	2.264E-04 - 2.266E-04
	GWPT	kg CO2e	404.04	21.27	391.19	377.10	386.95	396.48	422.98	1.38	402.66 - 405.42
	ODP	kg CFC11e	8.472E-06	1.334E-07	8.440E-06	8.345E-06	8.406E-06	8.477E-06	8.563E-06	7.433E-09	8.465E-06 - 8.479E-06
	AP	kg SO2e	1.252	0.267	1.016	0.897	0.974	1.067	1.392	0.018	1.234 - 1.270
	EPM	kg N eq	0.173	0.070	0.117	0.090	0.108	0.130	0.213	0.005	0.168 - 0.178
5000-30-FA-AE	EPF	kg P eq	0.048	0.000	0.048	0.048	0.048	0.048	0.048	1.16E-05	0.048 - 0.048
	SFP	kg O3e	27.07	7.28	20.35	17.47	19.48	21.72	30.38	0.48	26.59 - 27.55
	ADPf	MJ	2681.19	304.55	2519.13	2319.11	2456.99	2589.91	2974.98	19.77	2661.42 - 2700.96
	ADPe	kg Sb eq	2.232E-04	1.132E-06	2.229E-04	2.220E-04	2.227E-04	2.233E-04	2.239E-04	6.305E-08	2.231E-04 - 2.233E-04
	GWPT	kg CO2e	371.54	21.91	357.60	343.35	353.12	362.71	390.45	1.42	370.12 - 372.96
	ODP	kg CFC11e	7.644E-06	1.334E-07	7.612E-06	7.517E-06	7.578E-06	7.649E-06	7.735E-06	7.433E-09	7.637E-06 - 7.651E-06
5000-30-SL-AE	AP	kg SO2e	1.215	0.262	0.953	0.837	0.910	1.003	1.323	0.017	1.198 - 1.232
	EPM	kg N eq	0.176	0.068	0.114	0.087	0.104	0.127	0.206	0.004	0.172 - 0.180
	EPF	kg P eq	0.043	0.000	0.043	0.043	0.043	0.043	0.043	1.16E-05	0.043 - 0.043
	SFP	kg O3e	26.64	7.07	19.16	16.37	18.23	20.46	28.90	0.47	26.17 - 27.11
	ADPf	MJ	2542.47	307.20	2368.65	2165.68	2300.59	2437.57	2825.26	19.95	2522.52 - 2562.42
	ADPe	kg Sb eq	2.215E-04	1.132E-06	2.212E-04	2.203E-04	2.210E-04	2.216E-04	2.222E-04	6.305E-08	2.214E-04 - 2.216E-04
5000-30-SL-AE	GWPT	kg CO2e	367.51	22.50	354.12	339.80	349.84	359.47	388.00	1.46	366.05 - 368.97
	ODP	kg CFC11e	1.043E-05	1.334E-07	1.040E-05	1.030E-05	1.036E-05	1.043E-05	1.052E-05	7.433E-09	1.042E-05 - 1.044E-05
	AP	kg SO2e	1.432	0.272	1.182	1.066	1.146	1.237	1.572	0.018	1.414 - 1.450
	EPM	kg N eq	0.173	0.069	0.115	0.087	0.106	0.128	0.209	0.005	0.168 - 0.178
	EPF	kg P eq	0.046	0.000	0.046	0.046	0.046	0.046	0.046	1.16E-05	0.046 - 0.046
	SFP	kg O3e	30.65	7.11	23.66	20.78	22.64	24.98	33.33	0.47	30.18 - 31.12
5000-30-SL-AE	ADPf	MJ	2435.10	300.56	2268.96	2066.35	2206.14	2340.73	2714.04	19.50	2415.60 - 2454.60
	ADPe	kg Sb eq	2.150E-04	1.132E-06	2.147E-04	2.138E-04	2.145E-04	2.151E-04	2.157E-04	6.305E-08	2.149E-04 - 2.151E-04

Structural Lightweight 5,000 psi - Air-Entrained (continued)

Product	Indicator	Unit	Mean	SD	Median	P20	P40	P60	P80	MOE	95% CI
5000-40-FA-AE	GWPT	kg CO ₂ e	337.24	21.46	322.16	307.61	317.30	326.76	353.88	1.39	335.85 - 338.63
	ODP	kg CFC11e	6.770E-06	1.334E-07	6.738E-06	6.643E-06	6.704E-06	6.775E-06	6.861E-06	7.433E-09	6.763E-06 - 6.777E-06
	AP	kg SO ₂ e	1.176	0.256	0.886	0.767	0.842	0.932	1.242	0.017	1.159 - 1.193
	EPM	kg N eq	0.180	0.066	0.112	0.084	0.101	0.123	0.200	0.004	0.176 - 0.184
	EPF	kg P eq	0.038	0.000	0.038	0.038	0.038	0.038	0.038	1.16E-05	0.038 - 0.038
	SFP	kg O ₃ e	26.18	7.22	17.88	15.10	16.85	19.33	27.81	0.48	25.70 - 26.66
5000-40-SL-AE	ADP _f	MJ	2396.06	293.00	2206.51	2000.53	2136.79	2270.63	2633.97	18.99	2377.07 - 2415.05
	ADP _e	kg Sb eq	2.196E-04	1.132E-06	2.193E-04	2.184E-04	2.191E-04	2.197E-04	2.203E-04	6.305E-08	2.195E-04 - 2.197E-04
	GWPT	kg CO ₂ e	335.29	21.62	321.08	306.83	316.58	326.51	353.25	1.40	333.89 - 336.69
	ODP	kg CFC11e	1.058E-05	1.334E-07	1.055E-05	1.045E-05	1.051E-05	1.058E-05	1.067E-05	7.433E-09	1.057E-05 - 1.059E-05
	AP	kg SO ₂ e	1.469	0.268	1.203	1.085	1.161	1.254	1.582	0.018	1.451 - 1.487
	EPM	kg N eq	0.176	0.069	0.114	0.085	0.104	0.126	0.207	0.005	0.171 - 0.181
5000-50-FA/SL-AE	EPF	kg P eq	0.042	0.000	0.042	0.042	0.042	0.042	0.042	1.16E-05	0.042 - 0.042
	SFP	kg O ₃ e	31.57	7.48	24.04	21.15	22.95	25.24	34.39	0.49	31.08 - 32.06
	ADP _f	MJ	2267.53	286.18	2089.24	1885.96	2021.01	2161.63	2504.02	18.54	2248.99 - 2286.07
	ADP _e	kg Sb eq	2.112E-04	1.132E-06	2.109E-04	2.100E-04	2.107E-04	2.113E-04	2.119E-04	6.305E-08	2.111E-04 - 2.113E-04
	GWPT	kg CO ₂ e	302.30	19.88	286.69	271.98	281.79	291.55	315.12	1.29	301.01 - 303.59
	ODP	kg CFC11e	8.926E-06	1.334E-07	8.894E-06	8.799E-06	8.860E-06	8.931E-06	9.016E-06	7.433E-09	8.919E-06 - 8.933E-06
5000-50-SL-AE	AP	kg SO ₂ e	1.369	0.260	1.073	0.950	1.027	1.116	1.433	0.017	1.352 - 1.386
	EPM	kg N eq	0.180	0.066	0.111	0.081	0.099	0.121	0.196	0.004	0.176 - 0.184
	EPF	kg P eq	0.037	0.000	0.037	0.037	0.037	0.037	0.037	1.16E-05	0.037 - 0.037
	SFP	kg O ₃ e	29.99	7.40	21.56	18.59	20.37	22.78	31.65	0.49	29.50 - 30.48
	ADP _f	MJ	2152.02	263.58	1954.82	1747.66	1882.10	2023.83	2321.55	17.01	2135.01 - 2169.03
	ADP _e	kg Sb eq	2.112E-04	1.132E-06	2.109E-04	2.100E-04	2.107E-04	2.113E-04	2.119E-04	6.305E-08	2.111E-04 - 2.113E-04
5000-50-SL-AE	GWPT	kg CO ₂ e	303.07	19.41	288.00	273.28	283.03	293.16	315.37	1.25	301.82 - 304.32
	ODP	kg CFC11e	1.072E-05	1.334E-07	1.069E-05	1.059E-05	1.065E-05	1.072E-05	1.081E-05	7.433E-09	1.071E-05 - 1.073E-05
	AP	kg SO ₂ e	1.506	0.263	1.223	1.096	1.177	1.267	1.584	0.017	1.489 - 1.523
	EPM	kg N eq	0.178	0.068	0.111	0.082	0.101	0.123	0.202	0.005	0.173 - 0.183
	EPF	kg P eq	0.039	0.000	0.039	0.039	0.039	0.039	0.039	1.16E-05	0.039 - 0.039
	SFP	kg O ₃ e	32.49	7.43	24.44	21.44	23.26	25.64	34.56	0.49	32.00 - 32.98
5000-50-SL-AE	ADP _f	MJ	2099.96	265.94	1907.54	1701.98	1837.66	1981.05	2279.92	17.17	2082.79 - 2117.13
	ADP _e	kg Sb eq	2.074E-04	1.132E-06	2.071E-04	2.062E-04	2.069E-04	2.075E-04	2.081E-04	6.305E-08	2.073E-04 - 2.075E-04

Normal-Weight 2,500 psi - Air-Entrained — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
2500-00-FA/SL-AE	272.59	239.23	323.77	5.736E-06	5.513E-06	6.076E-06	0.860	0.506	1.246	0.115	0.032	0.206
2500-20-FA-AE	238.90	203.88	300.86	4.880E-06	4.657E-06	5.221E-06	0.821	0.437	1.478	0.119	0.028	0.276
2500-30-FA-AE	220.69	184.77	281.84	4.417E-06	4.194E-06	4.758E-06	0.800	0.400	1.500	0.121	0.026	0.291
2500-30-SL-AE	218.58	183.13	280.24	5.976E-06	5.753E-06	6.317E-06	0.922	0.531	1.637	0.119	0.026	0.284
2500-40-FA-AE	201.46	164.60	259.73	3.929E-06	3.706E-06	4.270E-06	0.778	0.361	1.436	0.123	0.024	0.271
2500-40-SL-AE	200.58	164.44	261.23	6.057E-06	5.834E-06	6.398E-06	0.943	0.540	1.594	0.121	0.025	0.273
2500-50-FA/SL-AE	182.05	144.83	240.94	5.133E-06	4.910E-06	5.474E-06	0.887	0.464	1.460	0.123	0.023	0.252
2500-50-SL-AE	182.58	145.74	241.87	6.137E-06	5.914E-06	6.477E-06	0.963	0.548	1.528	0.122	0.023	0.255

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADPf mean	ADPf min	ADPf max	ADPe mean	ADPe min	ADPe max
2500-00-FA/SL-AE	0.033	0.033	0.033	18.75	9.78	27.60	1816.68	1346.22	2553.18	1.095E-04	1.079E-04	1.124E-04
2500-20-FA-AE	0.028	0.028	0.029	18.30	8.46	34.28	1671.15	1179.12	2511.72	1.067E-04	1.051E-04	1.096E-04
2500-30-FA-AE	0.025	0.025	0.026	18.06	7.76	34.52	1592.49	1088.80	2435.43	1.052E-04	1.036E-04	1.081E-04
2500-30-SL-AE	0.027	0.027	0.028	20.30	10.28	37.88	1535.76	1037.92	2399.62	1.031E-04	1.015E-04	1.060E-04
2500-40-FA-AE	0.023	0.023	0.024	17.80	7.00	33.79	1509.45	993.46	2352.70	1.036E-04	1.020E-04	1.065E-04
2500-40-SL-AE	0.025	0.025	0.026	20.81	10.44	37.24	1442.13	935.16	2323.94	1.009E-04	9.933E-05	1.038E-04
2500-50-FA/SL-AE	0.022	0.022	0.023	19.93	8.99	35.31	1375.45	854.60	2218.62	9.995E-05	9.838E-05	1.028E-04
2500-50-SL-AE	0.023	0.023	0.024	21.33	10.61	36.02	1348.49	832.40	2164.45	9.878E-05	9.721E-05	1.017E-04

Normal-Weight 3,000 psi - Air-Entrained — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
3000-00-FA/SL-AE	304.33	269.97	354.63	6.456E-06	6.233E-06	6.796E-06	0.936	0.565	1.317	0.123	0.035	0.214
3000-20-FA-AE	266.15	229.91	329.95	5.485E-06	5.262E-06	5.826E-06	0.892	0.487	1.562	0.128	0.032	0.288
3000-30-FA-AE	245.51	208.25	308.68	4.961E-06	4.738E-06	5.302E-06	0.869	0.445	1.552	0.130	0.029	0.299
3000-30-SL-AE	243.13	206.40	305.32	6.728E-06	6.505E-06	7.069E-06	1.006	0.593	1.719	0.128	0.030	0.301
3000-40-FA-AE	223.73	185.40	281.90	4.408E-06	4.185E-06	4.749E-06	0.844	0.401	1.518	0.132	0.027	0.293
3000-40-SL-AE	222.73	185.22	282.07	6.819E-06	6.596E-06	7.160E-06	1.030	0.603	1.699	0.130	0.029	0.282
3000-50-FA/SL-AE	201.73	163.00	260.35	5.772E-06	5.549E-06	6.113E-06	0.966	0.517	1.578	0.132	0.025	0.274
3000-50-SL-AE	202.33	164.03	261.97	6.910E-06	6.687E-06	7.251E-06	1.053	0.612	1.659	0.131	0.026	0.268

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADP _f mean	ADP _f min	ADP _f max	ADP _e mean	ADP _e min	ADP _e max
3000-00-FA/SL-AE	0.037	0.037	0.037	20.28	10.82	28.44	1993.35	1509.73	2705.44	1.238E-04	1.222E-04	1.267E-04
3000-20-FA-AE	0.031	0.031	0.032	19.77	9.33	35.77	1828.45	1320.39	2702.30	1.207E-04	1.191E-04	1.236E-04
3000-30-FA-AE	0.028	0.028	0.029	19.50	8.53	35.71	1739.31	1218.03	2610.91	1.190E-04	1.174E-04	1.219E-04
3000-30-SL-AE	0.030	0.030	0.031	22.04	11.39	38.61	1675.03	1160.38	2538.96	1.165E-04	1.149E-04	1.194E-04
3000-40-FA-AE	0.025	0.025	0.026	19.21	7.68	35.08	1645.22	1110.00	2472.19	1.172E-04	1.156E-04	1.201E-04
3000-40-SL-AE	0.028	0.028	0.029	22.62	11.58	39.09	1568.93	1043.94	2430.74	1.141E-04	1.125E-04	1.170E-04
3000-50-FA/SL-AE	0.024	0.024	0.025	21.62	9.93	37.52	1493.38	952.65	2344.10	1.130E-04	1.114E-04	1.159E-04
3000-50-SL-AE	0.026	0.026	0.027	23.21	11.77	38.93	1462.82	927.48	2314.49	1.117E-04	1.101E-04	1.146E-04

Normal-Weight 4,000 psi - Air-Entrained — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
4000-00-FA/SL-AE	376.21	339.58	424.19	8.085E-06	7.862E-06	8.425E-06	1.109	0.699	1.458	0.142	0.045	0.224
4000-20-FA-AE	327.87	288.87	394.39	6.857E-06	6.634E-06	7.198E-06	1.053	0.600	1.718	0.147	0.039	0.306
4000-30-FA-AE	301.74	261.45	369.69	6.193E-06	5.970E-06	6.534E-06	1.023	0.547	1.670	0.150	0.036	0.310
4000-30-SL-AE	298.72	259.10	367.72	8.431E-06	8.208E-06	8.772E-06	1.198	0.735	1.879	0.148	0.038	0.315
4000-40-FA-AE	274.16	232.52	336.80	5.492E-06	5.269E-06	5.833E-06	0.991	0.490	1.600	0.153	0.033	0.305
4000-40-SL-AE	272.89	232.27	333.19	8.546E-06	8.323E-06	8.887E-06	1.227	0.747	1.889	0.150	0.035	0.318
4000-50-FA/SL-AE	246.30	204.15	302.54	7.221E-06	6.998E-06	7.561E-06	1.147	0.638	1.751	0.153	0.032	0.304
4000-50-SL-AE	247.06	205.45	304.86	8.661E-06	8.438E-06	9.002E-06	1.257	0.759	1.891	0.152	0.033	0.308

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADP _f mean	ADP _f min	ADP _f max	ADP _e mean	ADP _e min	ADP _e max
4000-00-FA/SL-AE	0.046	0.046	0.046	23.75	13.18	31.45	2393.50	1880.06	3081.95	1.562E-04	1.546E-04	1.591E-04
4000-20-FA-AE	0.039	0.039	0.040	23.11	11.31	39.32	2184.70	1640.32	3139.75	1.522E-04	1.506E-04	1.551E-04
4000-30-FA-AE	0.035	0.035	0.036	22.76	10.29	38.13	2071.84	1510.73	3014.43	1.501E-04	1.485E-04	1.530E-04
4000-30-SL-AE	0.037	0.037	0.038	25.97	13.90	41.96	1990.46	1437.74	2900.68	1.470E-04	1.454E-04	1.499E-04
4000-40-FA-AE	0.031	0.031	0.032	22.39	9.21	37.91	1952.71	1373.94	2794.42	1.478E-04	1.462E-04	1.507E-04
4000-40-SL-AE	0.034	0.034	0.035	26.71	14.14	42.81	1856.12	1290.30	2713.37	1.439E-04	1.423E-04	1.468E-04
4000-50-FA/SL-AE	0.030	0.030	0.031	25.45	12.06	41.14	1760.46	1174.72	2573.13	1.425E-04	1.409E-04	1.454E-04
4000-50-SL-AE	0.032	0.032	0.033	27.46	14.39	44.01	1721.77	1142.86	2558.61	1.409E-04	1.393E-04	1.438E-04

Normal-Weight 5,000 psi - Air-Entrained — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
5000-00-FA/SL-AE	464.16	424.78	511.32	1.000E-05	9.777E-06	1.034E-05	1.321	0.865	1.667	0.166	0.057	0.248
5000-20-FA-AE	404.04	361.69	471.54	8.472E-06	8.249E-06	8.813E-06	1.252	0.742	1.903	0.173	0.051	0.339
5000-30-FA-AE	371.54	327.59	440.10	7.644E-06	7.421E-06	7.985E-06	1.215	0.676	1.824	0.176	0.047	0.328
5000-30-SL-AE	367.51	324.40	438.71	1.043E-05	1.021E-05	1.077E-05	1.432	0.910	2.090	0.173	0.048	0.334
5000-40-FA-AE	337.24	291.59	402.70	6.770E-06	6.547E-06	7.111E-06	1.176	0.606	1.734	0.180	0.043	0.320
5000-40-SL-AE	335.29	290.93	402.50	1.058E-05	1.036E-05	1.092E-05	1.469	0.925	2.095	0.176	0.046	0.332
5000-50-FA/SL-AE	302.30	256.02	361.42	8.926E-06	8.703E-06	9.266E-06	1.369	0.789	1.931	0.180	0.041	0.315
5000-50-SL-AE	303.07	257.47	360.97	1.072E-05	1.050E-05	1.106E-05	1.506	0.940	2.088	0.178	0.042	0.325

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADPf mean	ADPf min	ADPf max	ADPe mean	ADPe min	ADPe max
5000-00-FA/SL-AE	0.056	0.056	0.056	27.87	15.98	35.53	2937.80	2387.99	3627.89	2.265E-04	2.249E-04	2.294E-04
5000-20-FA-AE	0.048	0.048	0.049	27.07	13.63	43.58	2681.19	2092.71	3666.40	2.232E-04	2.216E-04	2.261E-04
5000-30-FA-AE	0.043	0.043	0.044	26.64	12.37	41.72	2542.47	1933.08	3521.73	2.215E-04	2.199E-04	2.244E-04
5000-30-SL-AE	0.046	0.046	0.047	30.65	16.88	46.25	2435.10	1836.29	3399.82	2.150E-04	2.134E-04	2.179E-04
5000-40-FA-AE	0.038	0.038	0.039	26.18	11.03	40.91	2396.06	1764.61	3305.94	2.196E-04	2.180E-04	2.225E-04
5000-40-SL-AE	0.042	0.042	0.043	31.57	17.18	47.87	2267.53	1652.38	3166.48	2.112E-04	2.096E-04	2.141E-04
5000-50-FA/SL-AE	0.037	0.037	0.038	29.99	14.58	45.04	2152.02	1511.96	2945.89	2.112E-04	2.096E-04	2.141E-04
5000-50-SL-AE	0.039	0.039	0.040	32.49	17.47	47.99	2099.96	1468.48	2909.14	2.074E-04	2.058E-04	2.103E-04

Normal-Weight 2,500 psi - Non-Air-Entrained — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
2500-00-FA/SL	253.19	219.80	306.18	5.396E-06	5.173E-06	5.736E-06	0.820	0.468	1.232	0.110	0.027	0.208
2500-20-FA	221.37	186.43	282.53	4.595E-06	4.372E-06	4.936E-06	0.783	0.403	1.446	0.113	0.023	0.273
2500-30-FA	204.17	168.40	266.61	4.161E-06	3.938E-06	4.502E-06	0.763	0.368	1.484	0.114	0.020	0.276
2500-30-SL	202.62	167.27	265.55	5.621E-06	5.398E-06	5.962E-06	0.878	0.492	1.579	0.113	0.021	0.279
2500-40-FA	186.01	149.36	246.98	3.704E-06	3.481E-06	4.045E-06	0.742	0.331	1.399	0.116	0.018	0.272
2500-40-SL	185.77	149.77	249.20	5.696E-06	5.473E-06	6.037E-06	0.897	0.499	1.534	0.115	0.021	0.261
2500-50-FA/SL	168.14	131.15	228.93	4.832E-06	4.609E-06	5.173E-06	0.844	0.428	1.419	0.117	0.018	0.254
2500-50-SL	168.91	132.26	228.96	5.772E-06	5.549E-06	6.113E-06	0.917	0.507	1.500	0.116	0.019	0.253

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADP _f mean	ADP _f min	ADP _f max	ADP _e mean	ADP _e min	ADP _e max
2500-00-FA/SL	0.031	0.031	0.031	18.26	9.35	27.73	1631.71	1160.39	2389.92	5.210E-05	5.053E-05	5.497E-05
2500-20-FA	0.027	0.027	0.028	17.84	8.13	34.35	1489.38	997.96	2334.63	4.684E-05	4.527E-05	4.971E-05
2500-30-FA	0.024	0.024	0.025	17.61	7.46	35.58	1412.45	910.17	2292.70	4.400E-05	4.243E-05	4.688E-05
2500-30-SL	0.026	0.026	0.027	19.71	9.82	38.36	1368.70	871.74	2244.25	4.609E-05	4.452E-05	4.897E-05
2500-40-FA	0.022	0.022	0.023	17.37	6.76	33.94	1331.24	817.50	2217.48	4.101E-05	3.944E-05	4.389E-05
2500-40-SL	0.024	0.024	0.025	20.19	9.98	37.29	1281.03	775.52	2171.76	4.409E-05	4.252E-05	4.697E-05
2500-50-FA/SL	0.021	0.021	0.022	19.36	8.62	34.11	1212.53	694.13	2043.07	4.052E-05	3.895E-05	4.340E-05
2500-50-SL	0.022	0.022	0.023	20.68	10.14	35.28	1193.36	679.31	2024.41	4.208E-05	4.051E-05	4.496E-05

Normal-Weight 3,000 psi - Non-Air-Entrained — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
3000-00-FA/SL	276.34	242.21	328.94	5.934E-06	5.711E-06	6.274E-06	0.875	0.510	1.276	0.115	0.029	0.210
3000-20-FA	241.13	205.30	304.06	5.047E-06	4.824E-06	5.388E-06	0.834	0.438	1.514	0.119	0.025	0.282
3000-30-FA	222.10	185.34	285.30	4.567E-06	4.344E-06	4.908E-06	0.812	0.399	1.540	0.121	0.023	0.299
3000-30-SL	220.40	184.11	283.62	6.183E-06	5.960E-06	6.524E-06	0.940	0.537	1.677	0.120	0.024	0.286
3000-40-FA	202.02	164.29	261.63	4.061E-06	3.838E-06	4.402E-06	0.789	0.359	1.453	0.123	0.021	0.277
3000-40-SL	201.75	164.74	264.26	6.266E-06	6.043E-06	6.607E-06	0.961	0.546	1.633	0.121	0.022	0.275
3000-50-FA/SL	182.25	144.14	242.89	5.309E-06	5.086E-06	5.650E-06	0.902	0.466	1.491	0.123	0.019	0.257
3000-50-SL	183.10	145.37	244.25	6.349E-06	6.126E-06	6.690E-06	0.982	0.554	1.569	0.122	0.020	0.261

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADP _f mean	ADP _f min	ADP _f max	ADP _e mean	ADP _e min	ADP _e max
3000-00-FA/SL	0.034	0.034	0.034	19.40	10.13	28.44	1751.41	1270.46	2503.83	5.742E-05	5.585E-05	6.029E-05
3000-20-FA	0.029	0.029	0.030	18.93	8.77	35.38	1593.96	1090.78	2453.77	5.161E-05	5.004E-05	5.448E-05
3000-30-FA	0.026	0.026	0.027	18.68	8.04	35.89	1508.86	993.67	2376.35	4.847E-05	4.690E-05	5.135E-05
3000-30-SL	0.028	0.028	0.029	21.00	10.65	39.28	1460.46	951.15	2354.08	5.077E-05	4.920E-05	5.365E-05
3000-40-FA	0.024	0.024	0.025	18.41	7.26	35.09	1419.02	891.15	2286.56	4.515E-05	4.358E-05	4.803E-05
3000-40-SL	0.026	0.026	0.027	21.54	10.83	38.71	1363.48	844.72	2271.74	4.856E-05	4.699E-05	5.144E-05
3000-50-FA/SL	0.023	0.023	0.024	20.62	9.32	36.07	1287.70	754.67	2145.25	4.461E-05	4.304E-05	4.749E-05
3000-50-SL	0.024	0.024	0.025	22.07	11.00	37.02	1266.49	738.27	2103.07	4.634E-05	4.477E-05	4.922E-05

Normal-Weight 4,000 psi - Non-Air-Entrained — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
4000-00-FA/SL	330.17	294.34	381.10	7.183E-06	6.960E-06	7.523E-06	1.004	0.610	1.396	0.128	0.035	0.218
4000-20-FA	287.11	249.19	354.02	6.099E-06	5.876E-06	6.440E-06	0.954	0.522	1.644	0.133	0.030	0.299
4000-30-FA	263.83	224.78	329.41	5.512E-06	5.289E-06	5.853E-06	0.927	0.474	1.620	0.135	0.027	0.307
4000-30-SL	261.74	223.27	326.10	7.488E-06	7.265E-06	7.829E-06	1.083	0.642	1.822	0.134	0.029	0.314
4000-40-FA	239.26	199.02	299.74	4.893E-06	4.670E-06	5.234E-06	0.898	0.424	1.579	0.137	0.024	0.308
4000-40-SL	238.93	199.58	300.67	7.590E-06	7.367E-06	7.931E-06	1.109	0.653	1.835	0.135	0.026	0.298
4000-50-FA/SL	215.07	174.37	274.59	6.419E-06	6.196E-06	6.760E-06	1.037	0.556	1.671	0.138	0.023	0.291
4000-50-SL	216.12	175.89	277.30	7.691E-06	7.468E-06	8.032E-06	1.135	0.663	1.776	0.137	0.025	0.283

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADPf mean	ADPf min	ADPf max	ADPe mean	ADPe min	ADPe max
4000-00-FA/SL	0.041	0.041	0.041	22.05	11.94	30.42	2029.81	1526.47	2753.14	6.980E-05	6.823E-05	7.267E-05
4000-20-FA	0.035	0.035	0.036	21.48	10.28	37.95	1837.20	1306.67	2773.29	6.269E-05	6.112E-05	6.557E-05
4000-30-FA	0.032	0.032	0.033	21.17	9.39	37.75	1733.09	1187.86	2630.59	5.885E-05	5.728E-05	6.173E-05
4000-30-SL	0.033	0.033	0.034	24.01	12.58	41.01	1673.88	1135.85	2583.47	6.167E-05	6.010E-05	6.455E-05
4000-40-FA	0.028	0.028	0.029	20.84	8.43	36.76	1623.19	1062.45	2476.11	5.479E-05	5.322E-05	5.767E-05
4000-40-SL	0.031	0.031	0.032	24.67	12.80	41.41	1555.24	1005.64	2435.02	5.896E-05	5.739E-05	6.184E-05
4000-50-FA/SL	0.027	0.027	0.028	23.54	10.95	39.85	1462.54	895.49	2320.93	5.413E-05	5.256E-05	5.701E-05
4000-50-SL	0.028	0.028	0.029	25.32	13.00	42.19	1436.60	875.44	2321.17	5.625E-05	5.468E-05	5.913E-05

Normal-Weight 5,000 psi - Non-Air-Entrained — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
5000-00-FA/SL	410.67	372.62	458.86	8.994E-06	8.771E-06	9.334E-06	1.193	0.760	1.551	0.149	0.046	0.232
5000-20-FA	356.37	315.67	424.85	7.622E-06	7.399E-06	7.963E-06	1.130	0.649	1.812	0.154	0.039	0.313
5000-30-FA	327.02	284.89	397.73	6.881E-06	6.658E-06	7.222E-06	1.096	0.588	1.751	0.157	0.036	0.317
5000-30-SL	324.14	282.75	392.92	9.379E-06	9.156E-06	9.720E-06	1.293	0.801	1.979	0.155	0.037	0.322
5000-40-FA	296.04	252.40	360.91	6.098E-06	5.875E-06	6.439E-06	1.061	0.526	1.673	0.160	0.032	0.312
5000-40-SL	295.29	252.79	357.92	9.508E-06	9.285E-06	9.849E-06	1.326	0.814	1.978	0.157	0.035	0.323
5000-50-FA/SL	265.29	221.08	320.62	8.028E-06	7.805E-06	8.368E-06	1.235	0.691	1.838	0.161	0.031	0.313
5000-50-SL	266.45	222.83	323.78	9.636E-06	9.413E-06	9.977E-06	1.359	0.827	1.983	0.160	0.033	0.316

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADPf mean	ADPf min	ADPf max	ADPe mean	ADPe min	ADPe max
5000-00-FA/SL	0.051	0.051	0.051	25.78	14.54	33.50	2491.56	1959.24	3186.94	1.165E-04	1.149E-04	1.194E-04
5000-20-FA	0.043	0.043	0.044	25.05	12.43	41.55	2251.43	1684.67	3214.25	1.090E-04	1.074E-04	1.119E-04
5000-30-FA	0.039	0.039	0.040	24.66	11.30	39.81	2121.63	1536.25	3081.61	1.050E-04	1.034E-04	1.079E-04
5000-30-SL	0.041	0.041	0.042	28.26	15.35	44.55	2041.50	1465.31	2984.73	1.062E-04	1.046E-04	1.091E-04
5000-40-FA	0.035	0.035	0.036	24.25	10.10	39.65	1984.61	1379.57	2861.38	1.007E-04	9.912E-05	1.036E-04
5000-40-SL	0.038	0.038	0.039	29.08	15.61	45.65	1891.49	1300.68	2751.57	1.028E-04	1.012E-04	1.057E-04
5000-50-FA/SL	0.033	0.033	0.034	27.67	13.29	43.01	1777.68	1164.74	2583.12	9.822E-05	9.664E-05	1.011E-04
5000-50-SL	0.035	0.035	0.036	29.91	15.88	46.05	1741.47	1136.04	2573.76	9.939E-05	9.781E-05	1.023E-04

High-Strength 6,000 psi — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
6000-00-FA/SL	449.66	410.37	497.18	9.720E-06	9.497E-06	1.006E-05	1.290	0.837	1.653	0.162	0.054	0.247
6000-20-FA	391.26	349.07	460.57	8.233E-06	8.010E-06	8.574E-06	1.223	0.717	1.898	0.169	0.048	0.334
6000-30-FA	359.69	315.92	428.94	7.430E-06	7.207E-06	7.771E-06	1.187	0.653	1.828	0.172	0.044	0.331
6000-30-SL	355.87	312.96	427.96	1.014E-05	9.917E-06	1.048E-05	1.397	0.880	2.072	0.169	0.045	0.335
6000-40-FA	326.36	280.93	392.90	6.581E-06	6.358E-06	6.922E-06	1.149	0.584	1.746	0.176	0.041	0.324
6000-40-SL	324.61	280.50	391.46	1.028E-05	1.006E-05	1.062E-05	1.433	0.894	2.072	0.172	0.043	0.334
6000-50-FA/SL	292.53	246.52	350.50	8.673E-06	8.450E-06	9.013E-06	1.337	0.764	1.927	0.176	0.039	0.322
6000-50-SL	293.35	248.03	350.09	1.042E-05	1.020E-05	1.076E-05	1.469	0.909	2.083	0.174	0.040	0.329

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADPf mean	ADPf min	ADPf max	ADPe mean	ADPe min	ADPe max
6000-00-FA/SL	0.055	0.055	0.055	27.40	15.60	35.29	2822.05	2273.18	3522.94	1.991E-04	1.975E-04	2.020E-04
6000-20-FA	0.046	0.046	0.047	26.63	13.32	43.13	2571.19	1984.42	3555.37	1.949E-04	1.933E-04	1.978E-04
6000-30-FA	0.042	0.042	0.043	26.22	12.10	41.83	2435.59	1828.33	3427.16	1.926E-04	1.910E-04	1.955E-04
6000-30-SL	0.044	0.044	0.045	30.09	16.47	45.94	2334.27	1737.85	3324.09	1.880E-04	1.864E-04	1.909E-04
6000-40-FA	0.037	0.037	0.038	25.78	10.80	41.14	2292.46	1663.57	3210.93	1.901E-04	1.885E-04	1.930E-04
6000-40-SL	0.041	0.041	0.042	30.99	16.77	47.70	2171.67	1559.40	3062.59	1.843E-04	1.827E-04	1.872E-04
6000-50-FA/SL	0.036	0.036	0.037	29.47	14.25	45.25	2057.74	1420.92	2863.78	1.831E-04	1.815E-04	1.860E-04
6000-50-SL	0.038	0.038	0.039	31.88	17.05	47.55	2009.08	1380.96	2831.45	1.805E-04	1.789E-04	1.834E-04

High-Strength 8,000 psi — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
8000-00-FA/SL	518.34	476.91	566.14	1.122E-05	1.100E-05	1.156E-05	1.455	0.965	1.806	0.181	0.064	0.263
8000-20-FA	450.67	405.90	520.73	9.494E-06	9.271E-06	9.835E-06	1.378	0.828	2.029	0.189	0.057	0.358
8000-30-FA	414.10	367.52	483.16	8.562E-06	8.339E-06	8.903E-06	1.336	0.753	1.940	0.193	0.053	0.346
8000-30-SL	409.57	363.94	481.42	1.170E-05	1.148E-05	1.204E-05	1.580	1.016	2.229	0.189	0.054	0.352
8000-40-FA	375.49	327.00	440.80	7.578E-06	7.354E-06	7.919E-06	1.292	0.674	1.844	0.197	0.049	0.329
8000-40-SL	373.32	326.29	441.76	1.186E-05	1.164E-05	1.220E-05	1.622	1.033	2.245	0.192	0.051	0.346
8000-50-FA/SL	336.18	286.99	400.05	1.000E-05	9.776E-06	1.034E-05	1.509	0.880	2.060	0.197	0.046	0.333
8000-50-SL	337.06	288.63	398.61	1.203E-05	1.181E-05	1.237E-05	1.664	1.051	2.250	0.195	0.048	0.336

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADPf mean	ADPf min	ADPf max	ADPe mean	ADPe min	ADPe max
8000-00-FA/SL	0.063	0.063	0.063	30.61	17.78	38.25	3246.42	2669.20	3951.99	2.545E-04	2.529E-04	2.574E-04
8000-20-FA	0.053	0.053	0.054	29.71	15.14	46.51	2957.41	2336.70	3946.19	2.508E-04	2.492E-04	2.537E-04
8000-30-FA	0.048	0.048	0.049	29.22	13.71	44.89	2801.19	2156.97	3795.89	2.488E-04	2.472E-04	2.517E-04
8000-30-SL	0.051	0.051	0.052	33.73	18.79	49.69	2680.72	2048.36	3695.14	2.415E-04	2.399E-04	2.444E-04
8000-40-FA	0.042	0.042	0.043	28.71	12.21	42.88	2636.29	1967.25	3584.67	2.467E-04	2.451E-04	2.496E-04
8000-40-SL	0.047	0.047	0.048	34.77	19.13	50.93	2492.16	1841.42	3441.39	2.372E-04	2.356E-04	2.401E-04
8000-50-FA/SL	0.041	0.041	0.042	32.99	16.20	47.27	2361.94	1683.18	3201.49	2.372E-04	2.356E-04	2.401E-04
8000-50-SL	0.043	0.043	0.044	35.81	19.46	51.41	2303.59	1634.47	3122.95	2.329E-04	2.313E-04	2.358E-04

High-Strength 10,000 psi — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
10000-00-FA/SL	656.33	610.56	705.01	1.432E-05	1.410E-05	1.466E-05	1.786	1.222	2.111	0.217	0.082	0.295
10000-20-FA	569.36	519.30	640.18	1.211E-05	1.189E-05	1.245E-05	1.687	1.045	2.278	0.227	0.073	0.374
10000-30-FA	522.35	469.97	590.94	1.091E-05	1.069E-05	1.125E-05	1.633	0.949	2.193	0.232	0.067	0.373
10000-30-SL	516.53	465.36	588.47	1.495E-05	1.473E-05	1.529E-05	1.947	1.288	2.564	0.228	0.069	0.388
10000-40-FA	472.72	417.89	538.76	9.645E-06	9.421E-06	9.986E-06	1.576	0.847	2.057	0.237	0.061	0.358
10000-40-SL	469.93	416.96	539.02	1.515E-05	1.493E-05	1.549E-05	2.001	1.310	2.530	0.231	0.064	0.369
10000-50-FA/SL	422.20	366.46	485.90	1.276E-05	1.254E-05	1.310E-05	1.856	1.114	2.253	0.238	0.059	0.346
10000-50-SL	423.32	368.55	489.26	1.536E-05	1.514E-05	1.570E-05	2.054	1.331	2.513	0.235	0.061	0.353

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADP _f mean	ADP _f min	ADP _f max	ADP _e mean	ADP _e min	ADP _e max
10000-00-FA/SL	0.080	0.080	0.080	37.23	22.28	44.99	4030.92	3396.56	4733.11	3.265E-04	3.249E-04	3.294E-04
10000-20-FA	0.068	0.068	0.069	36.07	18.89	51.04	3659.44	2969.17	4636.53	3.218E-04	3.202E-04	3.247E-04
10000-30-FA	0.061	0.061	0.062	35.45	17.06	49.96	3458.64	2738.15	4436.61	3.192E-04	3.176E-04	3.221E-04
10000-30-SL	0.065	0.065	0.066	41.24	23.58	57.01	3303.79	2598.55	4332.31	3.099E-04	3.083E-04	3.128E-04
10000-40-FA	0.054	0.054	0.055	34.78	15.12	46.50	3246.68	2494.29	4196.40	3.165E-04	3.149E-04	3.194E-04
10000-40-SL	0.059	0.059	0.060	42.58	24.02	56.43	3061.41	2332.55	4039.18	3.044E-04	3.028E-04	3.073E-04
10000-50-FA/SL	0.051	0.051	0.052	40.29	20.26	50.86	2894.03	2129.15	3810.79	3.043E-04	3.027E-04	3.072E-04
10000-50-SL	0.054	0.054	0.055	43.91	24.45	55.82	2819.03	2066.54	3750.52	2.988E-04	2.972E-04	3.017E-04

High-Strength 12,000 psi — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
12000-00-FA/SL	745.16	696.60	794.29	1.632E-05	1.610E-05	1.666E-05	2.000	1.389	2.322	0.240	0.093	0.319
12000-20-FA	645.75	592.28	714.36	1.379E-05	1.357E-05	1.413E-05	1.886	1.185	2.440	0.251	0.082	0.392
12000-30-FA	592.02	535.90	659.32	1.242E-05	1.220E-05	1.276E-05	1.824	1.075	2.380	0.257	0.076	0.390
12000-30-SL	585.37	530.64	656.79	1.703E-05	1.681E-05	1.737E-05	2.183	1.463	2.770	0.252	0.078	0.400
12000-40-FA	535.31	476.39	598.44	1.097E-05	1.075E-05	1.131E-05	1.759	0.959	2.248	0.263	0.070	0.384
12000-40-SL	532.11	475.33	600.52	1.727E-05	1.705E-05	1.761E-05	2.245	1.488	2.759	0.256	0.073	0.387
12000-50-FA/SL	477.56	417.60	539.30	1.454E-05	1.432E-05	1.488E-05	2.079	1.264	2.484	0.264	0.067	0.371
12000-50-SL	478.85	420.01	543.45	1.751E-05	1.729E-05	1.785E-05	2.306	1.513	2.726	0.260	0.068	0.373

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADP _f mean	ADP _f min	ADP _f max	ADP _e mean	ADP _e min	ADP _e max
12000-00-FA/SL	0.091	0.091	0.091	41.50	25.19	49.01	4535.90	3864.76	5254.06	3.729E-04	3.713E-04	3.758E-04
12000-20-FA	0.077	0.077	0.078	40.17	21.31	54.56	4111.33	3376.29	5134.62	3.675E-04	3.659E-04	3.704E-04
12000-30-FA	0.069	0.069	0.070	39.45	19.21	51.98	3881.83	3112.25	4870.55	3.645E-04	3.629E-04	3.674E-04
12000-30-SL	0.073	0.073	0.074	46.08	26.68	61.30	3704.85	2952.70	4720.86	3.539E-04	3.523E-04	3.568E-04
12000-40-FA	0.061	0.061	0.062	38.70	17.00	49.69	3639.58	2833.54	4553.08	3.615E-04	3.599E-04	3.644E-04
12000-40-SL	0.068	0.068	0.069	47.60	27.17	60.26	3427.83	2648.68	4414.53	3.476E-04	3.460E-04	3.505E-04
12000-50-FA/SL	0.058	0.058	0.059	44.99	22.87	54.44	3236.53	2416.22	4159.05	3.475E-04	3.459E-04	3.504E-04
12000-50-SL	0.062	0.062	0.063	49.13	27.66	60.43	3150.81	2344.66	4105.12	3.412E-04	3.396E-04	3.441E-04

Lightweight 3,000 psi - Air-Entrained — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
LW-3000-00-FA/SL-AE	519.89	471.65	587.42	7.714E-06	7.491E-06	8.055E-06	2.370	1.823	2.927	0.184	0.051	0.322
LW-3000-20-FA-AE	450.84	400.35	551.66	6.559E-06	6.335E-06	6.901E-06	2.131	1.545	3.555	0.181	0.037	0.512
LW-3000-30-FA-AE	413.57	363.76	522.37	5.934E-06	5.711E-06	6.277E-06	2.002	1.418	3.704	0.179	0.036	0.596
LW-3000-30-SL-AE	441.88	393.37	547.83	7.986E-06	7.763E-06	8.328E-06	2.375	1.811	3.959	0.186	0.049	0.571
LW-3000-40-FA-AE	379.06	327.46	484.73	5.290E-06	5.066E-06	5.632E-06	1.901	1.287	3.503	0.178	0.028	0.578
LW-3000-40-SL-AE	419.26	370.01	519.86	8.087E-06	7.863E-06	8.429E-06	2.401	1.824	3.884	0.188	0.047	0.557
LW-3000-50-FA/SL-AE	375.33	320.97	486.17	6.865E-06	6.641E-06	7.208E-06	2.184	1.535	3.700	0.185	0.026	0.573
LW-3000-50-SL-AE	396.63	346.69	496.56	8.188E-06	7.964E-06	8.530E-06	2.427	1.836	3.797	0.190	0.046	0.530

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADPf mean	ADPf min	ADPf max	ADPe mean	ADPe min	ADPe max
LW-3000-00-FA/SL-AE	0.122	0.121	0.122	34.18	20.04	47.63	3731.76	3052.22	4710.04	4.271E-04	4.256E-04	4.300E-04
LW-3000-20-FA-AE	0.105	0.104	0.105	31.90	16.61	70.74	3306.13	2597.16	4651.90	3.711E-04	3.695E-04	3.741E-04
LW-3000-30-FA-AE	0.095	0.095	0.096	30.66	15.38	79.03	3076.54	2378.56	4521.20	3.410E-04	3.394E-04	3.439E-04
LW-3000-30-SL-AE	0.110	0.109	0.110	35.47	20.77	79.79	3288.48	2607.85	4689.78	4.002E-04	3.987E-04	4.032E-04
LW-3000-40-FA-AE	0.088	0.087	0.088	29.68	13.58	78.60	2877.31	2155.17	4321.62	3.181E-04	3.165E-04	3.211E-04
LW-3000-40-SL-AE	0.107	0.107	0.108	36.12	21.03	80.63	3170.79	2480.74	4526.54	3.976E-04	3.960E-04	4.005E-04
LW-3000-50-FA/SL-AE	0.095	0.095	0.096	33.68	16.65	80.75	2898.39	2137.40	4524.54	3.551E-04	3.535E-04	3.581E-04
LW-3000-50-SL-AE	0.105	0.105	0.105	36.77	21.30	76.22	3053.10	2354.02	4450.29	3.949E-04	3.933E-04	3.978E-04

Lightweight 4,000 psi - Air-Entrained — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
LW-4000-00-FA/SL-AE	601.81	553.07	662.82	9.534E-06	9.311E-06	9.875E-06	2.585	2.021	3.078	0.205	0.067	0.328
LW-4000-20-FA-AE	523.41	472.51	632.18	8.098E-06	7.875E-06	8.441E-06	2.348	1.741	4.022	0.203	0.055	0.592
LW-4000-30-FA-AE	477.97	425.51	597.69	7.313E-06	7.089E-06	7.656E-06	2.197	1.563	4.054	0.201	0.046	0.658
LW-4000-30-SL-AE	511.81	457.98	632.03	9.905E-06	9.681E-06	1.025E-05	2.655	2.010	4.493	0.210	0.052	0.663
LW-4000-40-FA-AE	434.95	377.73	556.11	6.499E-06	6.275E-06	6.842E-06	2.074	1.372	3.973	0.200	0.028	0.674
LW-4000-40-SL-AE	483.16	427.38	599.43	1.003E-05	9.808E-06	1.038E-05	2.688	2.013	4.441	0.212	0.047	0.650
LW-4000-50-FA/SL-AE	428.89	374.80	531.34	8.489E-06	8.265E-06	8.831E-06	2.423	1.758	3.882	0.208	0.046	0.560
LW-4000-50-SL-AE	450.46	397.97	546.86	1.015E-05	9.924E-06	1.049E-05	2.692	2.051	4.132	0.213	0.057	0.569

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADP _f mean	ADP _f min	ADP _f max	ADP _e mean	ADP _e min	ADP _e max
LW-4000-00-FA/SL-AE	0.133	0.133	0.134	38.28	23.57	50.60	4170.95	3486.95	5055.81	4.526E-04	4.510E-04	4.555E-04
LW-4000-20-FA-AE	0.115	0.115	0.116	35.97	20.04	82.46	3712.51	3000.95	5178.02	3.985E-04	3.969E-04	4.014E-04
LW-4000-30-FA-AE	0.105	0.104	0.105	34.53	17.81	86.42	3437.40	2705.29	5047.28	3.635E-04	3.620E-04	3.665E-04
LW-4000-30-SL-AE	0.122	0.122	0.123	40.48	23.52	90.76	3687.84	2935.08	5282.23	4.349E-04	4.333E-04	4.378E-04
LW-4000-40-FA-AE	0.095	0.095	0.096	33.32	14.76	91.08	3191.11	2393.27	4860.26	3.359E-04	3.343E-04	3.388E-04
LW-4000-40-SL-AE	0.119	0.118	0.119	41.30	23.51	94.57	3538.83	2759.54	5128.68	4.315E-04	4.299E-04	4.344E-04
LW-4000-50-FA/SL-AE	0.104	0.103	0.104	38.30	20.72	82.24	3205.87	2452.78	4589.29	3.802E-04	3.786E-04	3.832E-04
LW-4000-50-SL-AE	0.114	0.114	0.115	41.86	24.95	85.21	3353.73	2622.30	4690.11	4.205E-04	4.189E-04	4.235E-04

Lightweight 5,000 psi - Air-Entrained — Site Variation

Product	GWPT mean	GWPT min	GWPT max	ODP mean	ODP min	ODP max	AP mean	AP min	AP max	EPM mean	EPM min	EPM max
LW-5000-00-FA/SL-AE	674.76	626.46	728.04	1.082E-05	1.059E-05	1.116E-05	2.841	2.273	3.318	0.226	0.088	0.339
LW-5000-20-FA-AE	582.71	530.77	698.00	9.166E-06	8.942E-06	9.509E-06	2.551	1.921	4.335	0.223	0.069	0.657
LW-5000-30-FA-AE	529.12	470.98	663.29	8.263E-06	8.039E-06	8.606E-06	2.367	1.651	4.479	0.220	0.045	0.734
LW-5000-30-SL-AE	566.36	509.22	700.58	1.122E-05	1.100E-05	1.157E-05	2.881	2.184	4.888	0.230	0.059	0.716
LW-5000-40-FA-AE	479.75	419.79	601.57	7.331E-06	7.107E-06	7.674E-06	2.224	1.476	4.228	0.219	0.036	0.723
LW-5000-40-SL-AE	533.61	476.11	653.18	1.137E-05	1.114E-05	1.171E-05	2.919	2.211	4.848	0.232	0.059	0.715
LW-5000-50-FA/SL-AE	471.17	411.08	585.19	9.602E-06	9.378E-06	9.945E-06	2.612	1.860	4.232	0.228	0.044	0.632
LW-5000-50-SL-AE	494.77	435.51	609.48	1.150E-05	1.127E-05	1.184E-05	2.913	2.176	4.585	0.233	0.053	0.653

Product	EPF mean	EPF min	EPF max	SFP mean	SFP min	SFP max	ADP _f mean	ADP _f min	ADP _f max	ADP _e mean	ADP _e min	ADP _e max
LW-5000-00-FA/SL-AE	0.147	0.146	0.147	42.06	27.21	53.02	4667.83	3991.70	5451.92	5.276E-04	5.260E-04	5.305E-04
LW-5000-20-FA-AE	0.125	0.125	0.126	39.26	22.64	90.12	4124.45	3400.26	5677.73	4.627E-04	4.611E-04	4.656E-04
LW-5000-30-FA-AE	0.112	0.112	0.113	37.49	18.54	96.49	3796.59	2986.50	5603.80	4.204E-04	4.188E-04	4.234E-04
LW-5000-30-SL-AE	0.132	0.131	0.132	44.22	25.82	99.52	4066.49	3269.07	5849.01	4.971E-04	4.955E-04	5.001E-04
LW-5000-40-FA-AE	0.101	0.101	0.102	36.10	16.22	97.86	3514.68	2680.75	5169.59	3.892E-04	3.876E-04	3.922E-04
LW-5000-40-SL-AE	0.128	0.128	0.129	45.16	26.42	103.81	3896.12	3094.93	5576.46	4.932E-04	4.916E-04	4.962E-04
LW-5000-50-FA/SL-AE	0.111	0.110	0.111	41.70	21.72	92.55	3514.26	2678.77	5067.38	4.353E-04	4.337E-04	4.383E-04
LW-5000-50-SL-AE	0.122	0.121	0.122	45.70	26.17	97.08	3671.62	2846.66	5245.18	4.780E-04	4.764E-04	4.810E-04

STUDY PARTICIPANTS

Participating company	Facilities (N)	State(s) represented in study roster
A1 Block Corp.	1	Florida
Advanced Concrete, Inc.	2	Wisconsin
Alamo Concrete Products	16	Texas
All States Materials Group	1	Maine
American Materials L.L.C.	3	Wisconsin
Anderson Concrete Corp.	4	Ohio
Arkhol Ready Mix, APAC-Central, Inc.	12	Arkansas, Oklahoma
Austin Servall Concrete	1	Pennsylvania
BLT Companies	1	Arizona
BMC Enterprises Inc.	2	Missouri
Barney and Dickenson Ready Mix and Concrete Boom Pumping	2	New York
Bay Ready Mix	3	Maryland
Bayou Concrete, LLC	7	Alabama, Florida, Mississippi
Berkshire Concrete	1	Massachusetts
Best Concrete Mix Corp.	1	New York
Blalock Lumber Company	3	Tennessee
Boro Sand & Stone Corp.	2	Massachusetts
Boston Concrete	1	Massachusetts
Brannan Companies	8	Colorado
Buckeye Ready Mix LLC	12	Ohio
CAPA Texas	4	Texas
CEMEX Inc.	192	Alabama, Arizona, California, Colorado, Florida, Georgia, Mississippi, Nevada, North Carolina, Oklahoma, Tennessee, Texas
CRH (Americas Materials NW Region)	9	Idaho, Montana, Oregon, Washington
CRH (Pennsy Supply Inc.)	2	Pennsylvania
CRH (Shelly Co.)	4	Ohio
CTI Iowa	1	Iowa
CalPortland	34	Arizona, California, Oregon, Washington
Cape Cod Ready Mix	4	Massachusetts
Capitol Ready Mix, Inc.	2	Illinois
Castle Builders Supply	4	Pennsylvania
Castor Materials	3	Pennsylvania
Centex Materials	7	Texas
Centre Concrete Company	3	Pennsylvania
Century and Fordyce Concrete Inc.	6	Kansas, Missouri
Chandler Concrete Co., Inc.	10	North Carolina, Tennessee, Virginia
Chaney Enterprises	23	Delaware, District of Columbia, Maryland, Virginia
Commercial Ready Mix Products	4	Virginia
Conco Companies	1	Missouri
Concrete Ready Mix, Inc.	1	California
Concrete Supply Co., LLC	13	North Carolina, South Carolina

Participating company	Facilities (N)	State(s) represented in study roster
Concrete Supply Inc.	6	Iowa, Nebraska
Conewago Manufacturing	1	Pennsylvania
Contractors Choice Ready Mix	3	Ohio
Cow Town Redi Mix, Inc.	1	Texas
Crete Solutions	7	North Carolina, South Carolina
Dakota Concrete	1	New York
Dauphinais Concrete, Inc.	3	Massachusetts
Delaware Valley Concrete	4	Pennsylvania
Delta Industries	15	Alabama, Mississippi, Tennessee
Desert Redi Mix	1	California
Dickinson Ready Mix	2	North Dakota
Doan Companies	1	Michigan
Dolese Bros. Co.	10	Oklahoma
Duke City Redi-Mix	3	New Mexico
Empire Transit Mix	1	New York
Ernst Concrete	13	Georgia, Ohio
Felton Brothers	2	Virginia
Flynn Paving	1	Iowa
Geiger Ready Mix	6	Kansas, Missouri
Greenhill Concrete	1	Oklahoma
HC & D	2	Hawaii
Hahn Ready Mix	2	Iowa
Harper Brothers Construction	2	Colorado
Harrison Construction Company Inc	3	Tennessee
Harrod Concrete	3	Kentucky
Heidelberg Materials	36	Alabama, Georgia, New York, Pennsylvania, Texas, West Virginia
Hensel Ready Mix	1	Ohio
Holliday Rock	16	California
Holroyd Co.	5	Washington
Idaho Materials and Construction	3	Idaho
Irving Materials	51	Indiana, Kentucky, Ohio, Tennessee, Texas
J. G. MacLellan Concrete Co., Inc.	5	Massachusetts
J.P. Carrara & Sons, Inc.	2	New York, Vermont
Jack B. Parson Ready Mix Concrete	18	Idaho, Utah
Jobe Materials	6	Texas
Knife River	72	Alaska, California, Hawaii, Idaho, Minnesota, Montana, North Dakota, Oregon, South Dakota, Texas, Wyoming
Knights Companies	1	South Carolina
Lauren Concrete	3	Texas
Liberty Ready Mix	3	Iowa
Loveland Ready Mix Inc	4	Colorado
Lyman-Richey Corporation	6	Iowa, Nebraska

Participating company	Facilities (N)	State(s) represented in study roster
M&B Redi-Mix Inc. dba DuBrook	7	Pennsylvania
MCC Inc.	1	Wisconsin
MFI Concrete LLC	1	Maryland
MMC Materials	20	Louisiana, Mississippi, Tennessee
MODCO Inc (Modern Concrete)	1	Michigan
MSG Ready Mix	3	Colorado
Mack Concrete Inc	2	Ohio
Maddux Concrete	1	Arizona
Martin Marietta	24	Texas
Masters Concrete	1	Pennsylvania
Memphis Ready Mix	1	Tennessee
Mercer Fraser	1	California
Metrocon, Inc.	1	South Carolina
Mid America Ready Mix LLC	1	Kansas
Milestone	1	Indiana
Millstone Weber	1	Colorado
Milpitas Materials Company	1	California
National Ready Mixed Concrete Company	3	California
Nehalem Bay Ready Mix	1	Oregon
Nielson Construction & Materials	3	Utah
Norwalk	5	Iowa
Ohio Ready Mix	1	Ohio
Orgain Ready Mix	3	Tennessee
Osborne Companies	5	Ohio
Outback Materials, Inc.	2	California
Ozinga Ready Mix Concrete	58	Florida, Illinois, Indiana, Wisconsin
Phillips Companies	1	Ohio
Preferred Materials Concrete	35	California, Florida
Prineville Ready Mix	1	Oregon
Protocon RM	3	Michigan
Quikrete Construction Materials, LLC	14	Florida, Arizona
RK Hall Construction	20	Oklahoma, Texas
Rancho Ready Mix Products LP	3	California
Razorback Concrete Company	3	Arkansas
RivCrete Ready Mix	3	Wisconsin
Roadrunner Redi Mix	3	New Mexico
Rockport Ready Mix	1	Ohio
Rockville Fuel & Feed Co, Inc.	5	Maryland
Rohrer's Concrete	1	Pennsylvania
SRM Concrete	46	Alabama, Colorado, Georgia, Indiana, Michigan, New Jersey, New York, South Carolina, Tennessee, Texas, Wyoming
San Juan Redimix, LLC	1	Colorado
Shafer Contracting Co., Inc	1	Minnesota

Participating company	Facilities (N)	State(s) represented in study roster
Shelby Materials	4	Indiana
Short Load Concrete	1	California
Silverback Concrete	1	Virginia
Silvi Materials	10	New Jersey, Pennsylvania
Simon	3	Colorado
Smith Ready Mix	11	Indiana
Smokey Point Concrete	3	Washington
Southern Concrete Products	2	Arkansas, Louisiana
Southern Readymix	1	Georgia
Standard Materials Group, Inc., A CRH Company	14	Arkansas, Oklahoma
Stanwood Redi-Mix Inc.	1	Washington
Sterling Concrete Corp.	2	Massachusetts
Strata Corporation	16	Minnesota, Nebraska, North Dakota
Sunrock Group	2	North Carolina
TEC Crete	1	New York
Tech Ready Mix Inc.	2	Ohio
Teichert Materials	5	California, Nevada
Terminal Ready-Mix Inc.	4	Ohio
Texas Materials	8	Texas
The L. Suzio Concrete Company Inc.	3	Connecticut
Thomas Concrete	20	Georgia, North Carolina, South Carolina
Thomas, Bennett & Hunter, Inc.	2	Maryland, West Virginia
Titan America	24	Florida, North Carolina, South Carolina, Virginia
Triangle Ready Mix	1	North Carolina
Triple Crown Concrete	3	Kentucky
Upstone Materials	3	New York
VCNA	30	Illinois, Michigan, New York
Van-Smith Concrete Company	2	South Carolina
Vinagro Materials, LLC.	2	Rhode Island
Vulcan Materials	14	District of Columbia, Maryland, Virginia
Webb Concrete & Building Materials	1	Alabama
Western Rock Products	5	Arizona, Utah
Wilsonville Concrete Products	4	Oregon
Wingra Ready Mix	3	Wisconsin
Wm. Dauch Concrete	4	Ohio