



# ENVIRONMENTAL PRODUCT DECLARATION

Coffee Lake, Hillsboro,  
Linnton and Sundial Plants



## NRMCA Certified Environmental Product Declaration

This environmental product declaration was conducted in accordance with ISO 14025:2006

Internal Verification

External Verification

Declared Product:	This Environmental Product Declaration (EPD) covers concrete mixes produced at 4 concrete plants owned and operated by Knife River Corporation at Coffee Lake, Linnton, Hillsboro and Sundial plants in Oregon.	
Declaration Owner:	<i>Knife River Corporation</i> 12222 NW Marina Way, Portland OR 97231 503.944.3500 <a href="http://www.kniferiver.com">http://www.kniferiver.com</a>	
Program Operator:	<i>National Ready-Mix Concrete Association</i> 900 Spring St. Silver Spring MD 20910 301-587-1400 <a href="http://www.nrmca.org/sustainability">www.nrmca.org/sustainability</a>	
LCA and EPD Developer	<i>Anika T. Sarkar,</i> <i>Kelly Alexander</i> <i>Knife River Corporation</i> 12222 NW Marina Way, Portland OR 97231 503.944.3500 <a href="http://www.kniferiver.com">http://www.kniferiver.com</a> Utilizing WBCSD CSI-PCA EPD tool for concrete and cement. <a href="https://concrete-epd-tool.org">https://concrete-epd-tool.org</a>	
Independent LCA Reviewer and EPD verifier:	<i>Jamie Meil, Research Principal</i> <i>Athena Sustainable Materials Institute</i> 119 Ross Ave, Ottawa, Ontario K1Y 0N6 <a href="mailto:info@athenasmi.org">info@athenasmi.org</a> <a href="http://www.athenasmi.org">http://www.athenasmi.org</a>	
Product Category Rule	Product Category Rules (PCR) for ISO 14025 Type III Environmental Product Declarations (EPDs) for Concrete meeting the requirements of one of the following: ASTM C94, CSA A23.1/A23.2, UNSPSC code 30111500, Version 1.1 dated December 4, 2013 and Clarifications 1, 2, and 3 dated June 1, 2015; The Carbon Leadership Forum. <a href="http://www.carbonleadershipforum.org">www.carbonleadershipforum.org</a> .  PCR Reviewed By: Nicholas Santero, PE International; Holly Lahd, El Analytics; and Medgar Marceau, Morrison Hershfield	
Date of Issue:	October 5, 2018	
Period of Validity	October 5, 2023	
EPD Number:	NRMCAEPD:10023	

## About Knife River Corporation

Knife River builds the roads and bridges that connect people with where they want to go. From driveways to highways to airport runways, our mission is to build strong neighborhoods, build strong communities and keep Building a Strong America.

Founded 100 years ago, Knife River has grown into one of the country's largest construction materials and contracting businesses. We are the fifth-largest sand and gravel producer in the U.S., and in 2017 we produced 3.5 million cubic yards of concrete from a total of 90 locations. During the heart of construction season, Knife River has over 5,100 team members working across 15 central and western states. Our team is committed to working safely, producing high-quality results and successfully managing our impact on the environment. To us, that means staying true to our core values of **People, Safety, Quality** and the **Environment**, because that is the best way to take care of our teams, our customers and our communities.

Knife River is American-owned, American-operated and proud to be an industry leader in safety, quality and commitment to the environment. Find the nearest Knife River location and learn more about what we can do at [www.KnifeRiver.com](http://www.KnifeRiver.com).

## Location of Facilities

This EPD is for ready-mixed concrete produced at the following four facilities owned and operated by Knife River Corporation:

<b>Coffee Lake Plant</b>	<b>Hillsboro Plant</b>	<b>Linnton Plant</b>	<b>Sundial Plant</b>
12000 SW Tonquin Rd Sherwood, OR 97140	699 SW Wood Hillsboro, OR 97123	12222 NW Marina Way Portland, OR 97231	5700 NE Sundial Troutdale, OR 97060

## Description of Product

Products covered by this EPD satisfy general purpose concrete as used in residential, commercial and public works applications in the US and Canada. This EPD reports the impacts for 171 different ready-mixed concrete products (listed in Tables 1-4 on the following page) in accordance with the following:

- ACI 211: Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete
- ACI 318: Building Code Requirements for Structural Concrete
- ASTM C94: Standard Specification for Ready-Mixed Concrete
- CSI Master Format Division 03-30-00: Cast-in-Place Concrete
- UNSPSC Code 30111500: Ready Mix Concrete

## Declared Unit

The declared unit is one cubic yard (1yd<sup>3</sup>) of concrete mix.

## Product Components

- Mix IDs are identification name for each mixture design within the Knife River Corporation.
- Description of the mixes represents either the number of cement sacks used (weight of cement sack 94lbs) or the compressive strength of the mixture at specified day or at 28 days after pouring, the aggregate size, the supplementary cementitious materials (SCMs), and the admixtures used.
- Water to cementitious ratio (w/cm) varies in different mixture proportions. Usually, the lower the w/cm, the higher the strength.
- Compressive strength is presented for 28 days after pouring in most of the mixes: i.e. 4,000 PSI at 28 days. Some mix designs have the flexibility to incorporate a client-demanded compressive strength.
- Admixtures are specified for different mixes. Most commonly used admixtures are water reducer (WRA), high range water reducing admixture (HRWRA), air entrainer (AEA), superplasticizer, Shrinkage reducing admixture (SRA), viscosity modifier (VMA). In the following list, air entrainment or non-air entrainment is mentioned.
- Supplementary Cementitious Materials (SCMs) are used in various mix designs as a replacement of Portland cement. The SCMs used are ground granulated blast furnace slag cement (GGBFS) or fly ash.
- Unit weight of aggregate varies depending on the amount and density of the aggregate, the amount of entrained air (and entrapped air), and the water to cementitious content.

The components of the mixes included in this EPD meet the following standards:

Component	Standard	Specification for:
Portland cement	ASTM C150	Portland Cement
Natural and crushed aggregates	ASTM C33	Concrete Aggregates (Fine and Coarse Aggregate)- Specifications and Test Methods
Admixtures	ASTM C494	Chemical Admixtures for Concrete
Fly ash	ASTM C618	Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
Slag Cement	ASTM C989	Slag Cement for Use in Concrete and Mortars
Batch Water	ASTM C1602	Mixing Water Used in the Production of Hydraulic Cement Concrete

Products (mix design) are specific by product number and may contain cement, fly ash, slag, natural or crushed aggregate, admixture and water.

**Table 1 Declared Product Range Classification, Coffee Lake Plant (129 Mix Designs)**

Mix ID	Description	w/cm	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
240KGAR000	10 SACK GROUT W/WRA/VMA	0.52	As per client's demand	2194	No
240KGAR0S0	10 SACK GROUT W/WRA/HRWRA/VMA	0.45	6000	2205	No
240KGAR0SL	10 SACK GROUT W/WRA/HRWRA/SRA	0.5	As per client's demand	2160	No
2430B1H0S0	5000 PSI/3000 PSI 3 DAY 3/4" W/WRA/HRWRA	0.42	3000	2369	Yes
2430B420M9	5000 PSI/3000 PSI 3 DAY 3/4"W/AEA/MRWRA/NCA	0.4	3000	2311	Yes
2430N15000	3000 PSI 3/4" W/WRA	0.57	3000	2352	No
2430N15200	3000 PSI 3/4"W/FLYASH/WRA	0.57	3000	2346	No
2430N17000	3000 PSI 3/4" W/AEA/WRA	0.55	3000	2276	Yes
2430N17200	3000 PSI 3/4" W/FLYASH/WRA/AEA	0.53	3000	2272	Yes
2430P3K000	3000 PSI 3/8" LINE PUMP W/AEA/WRA	0.53	3000	2231	Yes
2430P3K400	3000 PSI 3/8" LINE PUMP W/FLY ASH/AEA/WRA	0.5	3000	2224	Yes
2430R1A0V0	3000 PSI 3/4" W/WRA/VMA	0.66	3000	2330	No
2430R1AFV0	3000 PSI 3/4" W/GGBFS/WRA/VMA	0.66	3000	2323	No
2430R1C0V0	3000 PSI 3/4" W/ AEA/WRA/VMA	0.63	3000	2281	Yes
2430R1CFV0	3000 PSI 3/4" W/GGBFS/WRA/VMA	0.62	3000	2275	Yes
2430XG7000	3000 PSI 3/4"-3/8" EXPOSED W/AEA/WRA	0.55	3000	2267	Yes
2430XG7300	3000 PSI 3/4"-3/8" EXPOSED W/FLY ASH/AEA/WRA	0.55	3000	2260	Yes
2430XG7F00	3000 PSI 3/4"-3/8" EXPOSED W/GGBFS/AEA/WRA	0.55	3000	2262	Yes
2433N17009	3300 PSI 3/4" W/WRA/AEA	0.46	3300	2284	Yes
2433N17200	3300 PSI 3/4" W/FLYASH/WRA/AEA	0.48	3300	2269	Yes
2433N17F00	3300 PSI 3/4" W/GGBFS/WRA/AEA	0.44	3300	2283	Yes
2435N15000	3500 PSI 3/4" W/WRA	0.53	3500	2357	No
2435N15200	3500 PSI 3/4" W/FLY ASH/WRA	0.57	3500	2346	No
2435N17000	3500 PSI 3/4" W/AEA/WRA	0.5	3500	2275	Yes
2435N17200	3500 PSI 3/4" W/FLY ASH/AEA/WRA	0.49	3500	2267	Yes
2435N35000	3500 PSI 3/8" W/WRA	0.52	3500	2291	No
2435X37000	3500 PSI 3/8" EXPOSED W/AEA/WRA	0.55	3500	2244	Yes
2435XG7000	3500 PSI 3/4"-3/8" EXPOSED W/AEA/WRA	0.5	3500	2274	Yes
2436N17209	3600 PSI 3/4" W/FLY ASH/AEA/WRA	0.43	3600	2290	Yes
2440N15200	4000 PSI 3/4" W/FLYASH/WRA	0.52	4000	2350	No
2440N17000	4000 PSI 3/4" W/AEA/WRA	0.48	4000	2275	Yes
2440N17200	4000 PSI 3/4"W/FLYASH/WRA/AEA	0.43	4000	2277	Yes
2440N17500	4000 PSI 3/4" W/FLYASH/AEA/WRA	0.42	4000	2266	Yes
2440N17F00	4000 PSI 3/4"W/GGBGS/WRA/AEA	0.43	4000	2278	Yes
2440N18000	4000 PSI 3/8" W/WRA/AEA	0.44	4000	2252	Yes
2440N18F00	4000 PSI 3/4" W/GGBFS/AEA/WRA	0.41	4000	2258	Yes
2440N1H2M0	4000 PSI 3/4" W/FLYASH/MRWRA	0.48	4000	2334	No

Mix ID	Description	w/cm	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
2440N35000	4000 PSI 3/8" W/WRA	0.47	4000	2310	No
2440N3L2S9	4000 PSI 3/8" W/FLYASH/WRA/HRWRA/AEA	0.42	4000	2210	Yes
2440N3LCS9	4000 PSI 3/8" W/GGBFS/WRA/HRWRA/AEA	0.42	4000	2215	Yes
2440N3R0S0	4000 PSI 3/8" W/WRA/HRWRA	0.48	4000	2314	No
2440PGH0M0	4000 PSI 3/4"-3/8" LINE PUMP W/MRWRA	0.47	4000	2334	No
2440PGH2M0	4000 PSI 3/4"-3/8" LINE PUMP W/FLYASH/MRWRA	0.48	4000	2334	No
2440PGHF0M0	4000 PSI 3/4"-3/8" LINE PUMP W/GGBFS/MRWRA	0.48	4000	2331	No
2440S30200	4000 PSI 3/8" SHOTCRETE W/FLYASH/WRA	0.42	4000	2292	No
2440S32000	4000 PSI 3/8" SHOTCRETE W/AEA	0.44	4000	2255	Yes
2440S32200	4000 PSI SHOTCRETE W/FLYASH/WRA/AEA	0.42	4000	2241	Yes
2440V42009	4000 PSI 1 1/2" PAVING W/WRA/AEA	0.42	4000	2322	Yes
2440X37000	4000 PSI 3/8" EXPOSED W/AEA/WRA	0.47	4000	2256	Yes
2440XG7000	4000 PSI 3/4"-3/8" EXPOSED W/AEA/WRA	0.47	4000	2272	Yes
2444N17009	4500 PSI 3/4" W/WRA/AEA	0.44	4350	2273	Yes
2444V42009	4000 PSI 1 1/2" CRUSHED PAVING W/AEA/WRA	0.43	4000	2347	Yes
2445N17000	4500 PSI 3/4" W/AEA/WRA	0.38	4500	2288	Yes
2450N15300	5000 PSI 3/4" W/FLYASH/WRA	0.44	5000	2357	No
2450N1A0M0	5000 PSI 3/4" W/MRWRA	0.44	5000	2355	No
2450N1A3M0	5000 PSI 3/4" W/FLYASH/MRWRA	0.4	5000	2360	No
2450N1H3S0	5000 PSI 3/4" W/FLYASH/WRA/HRWRA	0.41	5000	2363	No
2450N1K2S0	5000 PSI 3/4" W/FLYASH/WRA/HRWRA/AEA	0.39	5000	2271	Yes
2450N3R2S0	5000 PSI 3/8" W/FLYASH/WRA/HRWRA	0.44	5000	2283	No
2450N3RAS0	5000 PSI 3/8" W/GGBFS/WRA/HRWRA	0.44	5000	2288	No
2450S32200	5000 PSI 3/8" SHOTCRETE W/FLYASH/WRA/AEA	0.36	5000	2253	Yes
2451N1K0S9	5000 PSI/3000 PSI 3 DAY 3/4" W/WRA/HRWRA/AEA	0.37	5080	2287	Yes
2455N3V0S9	5500 PSI 3/8" W/WRA/HRWRA/AEA	0.4	5500	2225	Yes
2455N3V2S9	5500 PSI 3/8" W/FLYASH/WRA/HRWRA/AEA	0.39	5000	2219	Yes
245HEA0300	3500 PSI SAND EXTRUDED CURB W/FLY ASH/WRA	0.53	As per client's demand	2317	No
245HN00000	3500 PSI 1 1/2" W/MRWRA	0.49	As per client's demand	2377	No
245HN05000	3500 PSI 1 1/2" W/WRA	0.5	As per client's demand	2369	No
245HN07000	3500 PSI 1 1/2" W/AEA/WRA	0.47	3500	2307	Yes
245HN15000	3500 PSI 3/4" W/WRA	0.53	As per client's demand	2351	No
245HN17000	3500 PSI 3/4" W/WRA/AEA	0.5	As per client's demand	2275	No
245HZAWL00	300-800 PSI PUMPABLE CDF W/GGBFS/AEA	0.75	As per client's demand	1948	Yes
245KN15000	3000 PSI 3/4" W/WRA	0.57	As per client's demand	2352	No

Mix ID	Description	w/cm	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
245TN15200	3500 PSI 3/4" W/FLYASH/WRA	0.49	3500	2340	No
2460GARCS0	6000 PSI GROUT W/GGBFS/WRA/HRWRA/VMA	0.43	6000	2180	No
2460N15F00	6000 PSI 3/4" W/GGBFS/WRA	0.37	5000	2372	No
2460N3RCS0	6000 PSI 3/8" W/GGBFS/WRA/HRWRA	0.4	6000	2285	No
246HCG3F00	4000 PSI 3/4"-3/8" CURB MACHINE W/GGBFS/WRA/AEA	0.4	4000	2267	Yes
246HN15000	4000-4500 PSI 3/4" W/WRA	0.45	As per client's demand	2360	No
246HN15200	4500/5000 PSI 3/4" W/FLYASH/WRA	0.45	As per client's demand	2353	No
246HN15F00	4000/4500 PSI 3/4" W/GGBFS/WRA	0.45	As per client's demand	2352	No
246HN17000	4000 PSI 3/4" W/WRA/AEA	0.43	As per client's demand	2286	Yes
246HN1F0M0	4000 PSI 3/4" W/MRWRA/AEA	0.43	As per client's demand	2258	Yes
246HPG8F00	4000 PSI 3/4"-3/8" LINE PUMP W/GGBFS/WRA/AEA	0.44	4000	2246	Yes
246HZ340RM	6.5 SACK 3/8" PERVIOUS W/AEA/MRWRA/VMA/RECOVER	0.31	As per client's demand	2125	Yes
246HZAW800	200-500 PSI PUMPABLE CDF/CLSM W/FLYASH/AEA	0.75	As per client's demand	1925	Yes
246KC33009	3000-3500 PSI 3/8" CURB & GUTTER W/AEA/WRA	0.44	3600	2251	Yes
246KCG3F00	3000/3500 3/4"-3/8" CURB MACHINE W/GGBFS/WRA/AEA	0.43	3000	2266	Yes
246KI3K0M0	4000 PSI 3/8" ICF W/AEA/WRA	0.51	As per client's demand	2248	Yes
246KN00000	4000 PSI 1 1/2" W/HRWRA	0.45	4000	2381	No
246KN05000	4000 PSI 1 1/2" W/WRA	0.47	As per client's demand	2367	No
246KN07000	3500 PSI 1 1/2" W/AEA/WRA	0.43	As per client's demand	2299	Yes
246KN15000	4000 PSI 3/4" W/WRA	0.49	As per client's demand	2356	No
246KN17000	4000 PSI 3/4" W/WRA/AEA	0.44	As per client's demand	2290	Yes
246KN1E0M0	3500/4000 PSI 3/4" W/WRA/AEA	0.46	As per client's demand	2281	Yes
246KN37000	3300 PSI 3/8" W/AEA/WRA	0.5	3300	2247	Yes
246KPG5300	3000/3500 PSI 3/4"-3/8" LINEPUMP W/FLYASH/WRA	0.49	As per client's demand	2328	No
246KPG5F00	3000/3500 PSI 3/4"-3/8" LINE PUMP W/GGBFS/WRA	0.49	3000	2335	No
246KPG7000	3000/3500 PSI 3/4"-3/8" LINE PUMP W/WRA/AEA	0.49	As per client's demand	2264	Yes
246KPG7300	3000/3500 PSI 3/4"-3/8"LINE PUMP W/FLYASH/WRA/AEA	0.48	3000	2255	Yes
246KPG8F00	3000/3500 3/4"-3/8" LINE PUMP W/GGBFS/WRA/AEA	0.48	3000	2247	Yes

Mix ID	Description	w/cm	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
246KPGA000	3000/3500 PSI 3/4"-3/8" LINE PUMP W/WRA	0.49	As per client's demand	2329	No
2470N3R2S0	7000 PSI 3/8" W/FLYASH/WRA/HRWRA	0.38	7000	2284	No
247HG3H000	2000 PSI BLOCK FILL GROUT W/WRA	0.48	As per client's demand	2265	No
247KG3H000	2500 PSI BLOCK FILL GROUT W/WRA	0.51	As per client's demand	2260	No
247KN37000	3500 PSI 3/8" W/AEA/WRA	0.43	3500	2256	Yes
248HZAW800	500-1000 PSI GROUT W/FLY ASH/AEA	0.44	As per client's demand	1936	Yes
248KG3R000	8 SACK GROUT 3/8"W /WRA	0.48	As per client's demand	2247	No
249KGAR000	9 SACK GROUT W/WRA/VMA	0.57	As per client's demand	2140	No
24C1LAW0H6	100-200 PSI SAND TAILGATE CDF W/FA	1.75	100	1905	No
24C1LAW0H9	100 PSI CDF/CLSM CHUTE ONLY W/AEA	1.45	100	1857	No
24F0N1H0S0	5000 PSI 3/4"W/WRA/HRWRA	0.38	5000	2380	No
24F2N1H0S0	4500/5000 PSI 3/4" W/WRA/HRWRA	0.39	As per client's demand	2379	No
24F2N3R3P0	4000/5000 PSI SCC W/FLYASH/HRWRA/VMA	0.39	6000	2329	No
24F4N1A0M0	4000/4500 PSI 3/4" W/MRWRA	0.42	As per client's demand	2359	No
24F4N1H0S0	4000/4500 PSI 3/4" W/WRA/HRWRA	0.42	As per client's demand	2369	No
24F4N1H0SK	3000/3500/4000 PSI W/WRA/HRWRA/SRA	0.42	As per client's demand	2361	No
24F4N1H2S0	4000/4500 PSI 3/4" W/FLYASH/WRA/HRWRA	0.42	As per client's demand	2363	No
24F5N1AFM0	4000 PSI 3/4" W/GGBFS/MRWRA	0.43	As per client's demand	2340	No
24F5N1H0S0	4500/4500 PSI 3/4" W/WRA/HRWRA	0.44	As per client's demand	2380	No
24F5N1K2M0	4000 PSI 3/4" W/FLYASH/MRWRA/AEA	0.43	As per client's demand	2263	Yes
24F5N1LAS9	4000 PSI 3/4" W/GGBFS/AEA/WRA/HRWRA	0.43	4000	2280	Yes
24F5PGE2M0	4000 PSI 3/4"-3/8" LINE PUMP W/FLYASH/MRWRA/AEA	0.43	As per client's demand	2261	Yes
24F5PGEFM0	4000 PSI 3/4"-3/8" LINE PUMP W/GGBFS/MRWRA/AEA	0.43	As per client's demand	2259	Yes
24F7N3HFS0	4000/4500 PSI 3/8" W/GGBFS/WRA/HRWRA	0.45	As per client's demand	2318	No
24F8N3A1S0	4000/4500 PSI 3/8" W/FLYASH/WRA/HRWRA	0.46	As per client's demand	2316	No
24V0N1A00M	4000 PSI 3/4" W/MRWRA	0.48	As per client's demand	2356	No
24V1N15300	4000 PSI 3/4" W/FLYASH/WRA	0.49	As per client's demand	2350	No



Mix ID	Description	w/cm	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
24V1N15F00	4000 PSI 3/4" W/GGBFS/WRA	0.49	As per client's demand	2355	No
24V2N1A00M	3500/4000 PSI 3/4" W/MRWRA	0.5	As per client's demand	2356	No

Table 2 Declared Product Range Classification, Hillsboro Plant (104 Mix Designs)

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
240KGAR000	10 SACK GROUT W/WRA/VMA	0.52	As per client's demand	2194	No
240KGAR0S0	10 SACK GROUT W/WRA/HRWRA/VMA	0.45	6000	2205	No
240KGAR0SL	10 SACK GROUT W/WRA/HRWRA/SRA	0.5	As per client's demand	2160	No
2430B1H0S0	5000 PSI/3000 PSI 3 DAY 3/4" W/WRA/HRWRA	0.42	3000	2369	Yes
2430N15000	3000 PSI 3/4" W/WRA	0.57	3000	2352	No
2430N15200	3000 PSI 3/4"W/FLYASH/WRA	0.57	3000	2346	No
2430N17000	3000 PSI 3/4" W/AEA/WRA	0.54	3000	2276	Yes
2430N17200	3000 PSI 3/4" W/FLYASH/WRA/AEA	0.53	3000	2272	Yes
2430P3K000	3000 PSI 3/8" LINE PUMP W/AEA/WRA	0.52	3000	2239	Yes
2430P3K400	3000 PSI 3/8" LINE PUMP W/FLY ASH/AEA/WRA	0.5	3000	2224	Yes
2430R1A0V0	3000 PSI 3/4" W/WRA/VMA	0.66	3000	2330	No
2430R1AFV0	3000 PSI 3/4" W/GGBFS/WRA/VMA	0.66	3000	2323	No
2430R1C0V0	3000 PSI 3/4" W/AEA/WRA/VMA	0.63	3000	2281	Yes
2430R1CFV0	3000 PSI 3/4" W/GGBFS/AEA/WRA/VMA	0.62	3000	2275	Yes
2430XG7000	3000 PSI 3/4"-3/8" EXPOSED W/AEA/WRA	0.55	3000	2267	Yes
2430XG7300	3000 PSI 3/4"-3/8" EXPOSED W/FLY ASH/AEA/WRA	0.55	3000	2257	Yes
2430XG7F00	3000 PSI 3/4"-3/8" EXPOSED W/GGBFS/AEA/WRA	0.55	3000	2262	Yes
2433N17009	3300 PSI 3/4" W/WRA/AEA	0.46	3300	2284	Yes
2433N17200	3300 PSI 3/4" W/FLYASH/WRA/AEA	0.48	3300	2269	Yes
2433N17F00	3300 PSI 3/4" W/GGBFS/WRA/AEA	0.44	3300	2283	Yes
2435N15000	3500 PSI 3/4" W/WRA	0.53	3500	2357	No
2435N15200	3500 PSI 3/4" W/FLY ASH/WRA	0.57	3500	2346	No
2435N17000	3500 PSI 3/4" W/AEA/WRA	0.5	3500	2275	Yes
2435N17200	3500 PSI 3/4" W/FLY ASH/AEA/WRA	0.49	3500	2267	Yes
2435N35000	3500 PSI 3/8" W/WRA	0.55	3500	2275	No
2435X37000	3500 PSI 3/8" EXPOSED W/AEA/WRA	0.55	3500	2244	Yes
2435XG7000	3500 PSI 3/4"-3/8" EXPOSED W/AEA/WRA	0.5	3500	2274	Yes
2435XG7200	3500 PSI 3/4"-3/8" EXPOSED W/FLY AHS/AEA/WRA	0.5	3500	2265	Yes

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
2440N15000	4000 PSI 3/4" W/WRA	0.53	4000	2358	No
2440N15200	4000 PSI 3/4" W/FLYASH/WRA	0.52	4000	2350	No
2440N17000	4000 PSI 3/4" W/AEA/WRA	0.48	4000	2275	Yes
2440N17200	4000 PSI 3/4" W/FLYASH/WRA/AEA	0.43	4000	2277	Yes
2440N17F00	4000 PSI 3/4" W/GGBGS/WRA/AEA	0.43	4000	2278	Yes
2440N18000	4000 PSI 3/8" W/WRA/AEA	0.44	4000	2252	Yes
2440N18200	4000 PSI 3/4" W/FLYASH/WRA/AEA	0.4	4000	2255	Yes
2440N1H2M0	4000 PSI 3/4" W/FLYASH/MRWRA	0.48	4000	2334	No
2440N1HFM0	4000 PSI 3/4" W/GGBFS/MRWRA	0.48	4000	2335	No
2440N37000	4000 PSI 3/8" W/AEA/WRA	0.45	4000	2254	Yes
2440N3L2S9	4000 PSI 3/8" W/FLYASH/WRA/HRWRA/AEA	0.42	4000	2210	Yes
2440N3LCS9	4000 PSI 3/8" W/GGBFS/WRA/HRWRA/AEA	0.42	4000	2215	Yes
2440N3R0S0	4000 PSI 3/8" W/WRA/HRWRA	0.48	4000	2314	No
2440N3RC09	4000 PSI 3/8" DRILLED SHAFT W/GGBFS/WRA/MRWRA/RECOVER	0.38	4000	2320	No
2440PGH0M0	4000 PSI 3/4"-3/8" LINE PUMP W/MRWRA	0.47	4000	2334	No
2440PGH2M0	4000 PSI 3/4"-3/8" LINE PUMP W/FLYASH/MRWRA	0.48	4000	2334	No
2440S30200	4000 PSI 3/8" SHOTCRETE W/FLY ASH/WRA	0.42	4000	2292	No
2440S32200	4000 PSI SHOTCRETE W/FLYASH/WRA/AEA	0.42	4000	2241	Yes
2440XG7000	4000 PSI 3/4"-3/8" EXPOSED W/AEA/WRA	0.47	4000	2272	Yes
2444N17009	4500 PSI 3/4" W/WRA/AEA	0.44	4350	2273	Yes
2444V42009	4000 PSI 1 1/2" CRUSHED PAVING W/AEA/WRA	0.42	4000	2335	Yes
2450N15300	5000 PSI 3/4" W/FLYASH/WRA	0.44	5000	2357	No
2450N15F00	5000 PSI 3/4" W/GGBFS/WRA	0.44	5000	2361	No
2450N1A0M0	5000 PSI 3/4" W/MRWRA	0.44	5000	2355	No
2450N1H3S0	5000 PSI 3/4" W/FLYASH/WRA/HRWRA	0.41	5000	2363	No
2451N1K0S9	5000 PSI/3000 PSI 3 DAY 3/4" W/WRA/HRWRA/AEA	0.37	5080	2287	Yes
2455N3V0S9	5500 PSI 3/8" W/WRA/HRWRA/AEA	0.4	5500	2225	Yes
2455N3V2S9	5500 PSI 3/8" W/FLYASH/WRA/HRWRA/AEA	0.39	5000	2219	Yes
245HN05000	3500 PSI 1 1/2" W/WRA	0.5	As per client's demand	2369	No
245HN07000	3500 PSI 1 1/2" W/AEA/WRA	0.47	3500	2307	Yes
245HN15000	3500 PSI 3/4" W/WRA	0.53	As per client's demand	2351	No
245HN17000	3500 PSI 3/4" W/WRA/AEA	0.5	As per client's demand	2275	No
2460N3RCS0	6000 PSI 3/8" W/GGBFS/WRA/HRWRA	0.4	6000	2285	No
246HCG3F00	4000 PSI 3/4"-3/8" CURB MACHINE W/GGBFS/WRA/AEA	0.4	4000	2267	Yes
246HN15000	4000-4500 PSI 3/4" W/WRA	0.45	As per client's demand	2360	No

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
246HN15F00	4000/4500 PSI 3/4" W/GGBFS/WRA	0.45	As per client's demand	2352	No
246HN17000	4000 PSI 3/4" W/WRA/AEA	0.43	As per client's demand	2285	Yes
246HN1F0M0	4000 PSI 3/4" W/MRWRA/AEA	0.43	As per client's demand	2258	Yes
246HPG8F00	4000 PSI 3/4"-3/8" LINE PUMP W/GGBFS/WRA/AEA	0.44	4000	2246	Yes
246HZ340RM	6.5 SACK 3/8" PERVIOUS W/AEA/MRWRA/VMA/RECOVER	0.31	As per client's demand	2065	Yes
246HZAW800	200-500 PSI PUMPABLE CDF/CLSM W/FLYASH/AEA	0.75	As per client's demand	1925	Yes
246KCG3300	3000/3500 PSI 3/4"-3/8" CURB MACHINE W/FLYASH/WRA/AEA	0.43	3300	2263	Yes
246KCG3F00	3000/3500 3/4"-3/8" CURB MACHINE W/GGBFS/WRA/AEA	0.43	3000	2266	Yes
246KN05000	4000 PSI 1 1/2" W/WRA	0.47	As per client's demand	2367	No
246KN15000	4000 PSI 3/4" W/WRA	0.49	As per client's demand	2356	No
246KN37000	3000 PSI 3/8" W/AEA/WRA	0.5	3300	2247	Yes
246KPG5300	3000/3500 PSI 3/4"-3/8" LINEPUMP W/FLYASH/WRA	0.49	As per client's demand	2328	No
246KPG5F00	3000/3500 PSI 3/4"-3/8" LINE PUMP W/GGBFS/WRA	0.49	3000	2335	No
246KPG7000	3000/3500 PSI 3/4'-3/8" LINE PUMP W/WRA/AEA	0.49	As per client's demand	2264	Yes
246KPG7300	3000/3500 PSI 3/4"-3/8"LINE PUMP W/FLYASH/WRA/AEA	0.48	3000	2242	Yes
246KPG8F00	3000/3500 3/4"-3/8" LINE PUMP W/GGBFS/WRA/AEA	0.48	3000	2247	Yes
246KPGA000	3000/3500 PSI 3/4"-3/8" LINE PUMP W/WRA	0.49	As per client's demand	2329	No
247HG3H000	2000 PSI BLOCK FILL GROUT W/WRA	0.48	As per client's demand	2265	No
247KG3H000	2500 PSI BLOCK FILL GROUT W/WRA	0.51	As per client's demand	2260	No
2480N3R2S0	8000 PSI 3/8" W/FLYASH/WRA/HRWRA/RECOVER	0.33	8000	2302	No
248HZAW800	500-1000 PSI GROUT W/FLY ASH/AEA	0.44	As per client's demand	1936	Yes
248KG3R000	8 SACK GROUT/3/8"W /WRA	0.48	As per client's demand	2247	No
249KGAR000	9 SACK GROUT W/WRA/VMA	0.57	As per client's demand	2140	No
24C1LAW0H9	100 PSI CDF/CLSM CHUTE ONLY W/AEA	1.45	100	1857	No
24F0N1H2S0	4500/5000 PSI 3/4" W/FLYASH/WRA/HRWRA	0.38	As per client's demand	2374	No

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
24F4N0A3M0	4000-4500 PSI 1 1/2" W/FLYASH/MRWRA	0.42	As per client's demand	2338	No
24F4N1A0M0	4000/4500 PSI 3/4" W/MRWRA	0.42	As per client's demand	2359	No
24F4N1H0S0	4000/4500 PSI 3/4" W/WRA/HRWRA	0.42	As per client's demand	2382	No
24F4N1H0SK	3000/3500/4000 PSI W/WRA/HRWRA/SRA	0.42	As per client's demand	2361	No
24F4N1H2S0	4000/4500 PSI 3/4" W/FLYASH/WRA/HRWRA	0.42	As per client's demand	2363	No
24F5N1K2M0	4000 PSI 3/4" W/FLYASH/MRWRA/AEA	0.43	As per client's demand	2263	Yes
24F5N1LAS9	4000 PSI 3/4" W/GGBFS/AEA/WRA/HRWRA	0.43	4000	2280	Yes
24F5PGE2M0	4000 PSI 3/4"-3/8" LINE PUMP W/FLYASH/MRWRA/AEA	0.43	As per client's demand	2261	Yes
24F5PGEFM0	4000 PSI 3/4"-3/8" LINE PUMP W/GGBFS/MRWRA/AEA	0.43	As per client's demand	2259	Yes
24F7N3HFS0	4000/4500 PSI 3/8" W/GGBFS/WRA/HRWRA	0.45	As per client's demand	2318	No
24F8N3A1S0	4000/4500 PSI 3/8" W/FLYASH/WRA/HRWRA	0.46	As per client's demand	2316	No
24T5N1LASJ	4000 PSI 3/4" W/GGBFS/AEA/WRA/HRWRA/SRA	0.33	5000	2268	Yes
24V0N1A00M	4000 PSI 3/4" W/MRWRA	0.48	As per client's demand	2356	No
24V1N15300	4000 PSI 3/4" W/FLYASH/WRA	0.49	As per client's demand	2350	No
24V1N15F00	4000 PSI 3/4" W/GGBFS/WRA	0.49	As per client's demand	2355	No
24V2N1A00M	3500/4000 PSI 3/4" W/MRWRA	0.5	As per client's demand	2356	No

Table 3 Declared Product Range Classification, Linnton Plant (134 Mix Designs)

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
240KGAR000	10 SACK GROUT W/WRA/VMA	0.52	As per client's demand	2193	No
240KGAR0S0	10 SACK GROUT W/WRA/HRWRA/VMA	0.48	5000	2246	No
2412GARJ00	1200 PSI GROUT W/GGBFS/AEA	0.56	1200	2155	Yes
2430B1H0S0	5000 PSI/3000 PSI 3 DAY 3/4" W/WRA/HRWRA	0.42	3000	2404	Yes
2430B1H0SK	5000 PSI/3000 PSI 3DAY 1" W/WRA/HRWRA/SRA	0.42	3000	2402	No
2430N15000	3000 PSI 1" W/WRA	0.59	3000	2381	No
2430N15200	3000 PSI 3/4"W/FLYASH/WRA	0.54	3000	2364	No
2430N17000	3000 PSI 1" W/AEA/WRA	0.52	3000	2304	Yes

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
2430N17200	3000 PSI 3/4" W/FLYASH/WRA/AEA	0.53	3000	2289	Yes
2430P3H000	3000 PSI 3/8" LINE PUMP W/WRA	0.56	3000	2320	No
2430P3K000	3000 PSI 3/8" LINE PUMP W/AEA/WRA	0.55	3000	2262	Yes
2430P3K400	3000 PSI 3/8" LINE PUMP W/FLY ASH/AEA/WRA	0.51	3000	2246	Yes
2430R1A0V0	3000 PSI 1" W/WRA/VMA	0.62	3000	2354	No
2430R1AFV0	3000 PSI 1" W/GGBFS/WRA/VMA	0.62	3000	2349	No
2430R1COV0	3000 PSI 1" W/AEA/WRA/VMA	0.58	3000	2318	Yes
2430R1CFV0	3000 PSI 1" W/GGBFS/AEA/WRA/VMA	0.58	3000	2312	Yes
2430XG7000	3000 PSI 1"-3/8" EXPOSED W/AEA/WRA	0.57	3000	2276	Yes
2430XG7300	3000 PSI 1"-3/8" EXPOSED W/FLY ASH/AEA/WRA	0.52	3000	2271	Yes
2430XG7F00	3000 PSI 1"-3/8" EXPOSED W/GGBFS/AEA/WRA	0.57	3000	2271	Yes
2433N17009	3300 PSI 3/4" W/WRA/AEA	0.46	3300	2330	Yes
2433N17200	3300 PSI 3/4" W/FLYASH/WRA/AEA	0.47	3300	2320	Yes
2433N17F00	3300 PSI 3/4" W/GGBFS/WRA/AEA	0.47	3300	2314	Yes
2435N15000	3500 PSI 1" W/WRA	0.52	3500	2396	No
2435N15200	3500 PSI 1" W/FLY ASH/WRA	0.48	3500	2385	No
2435N17000	3500 PSI 1" W/AEA/WRA	0.52	3500	2304	Yes
2435N17200	3500 PSI 1" W/FLY ASH/AEA/WRA	0.53	3500	2289	Yes
2435N35000	3500 PSI 3/8" W/WRA	0.56	3500	2310	No
2435X37000	3500 PSI 3/8" W/AEA/WRA	0.52	3500	2253	Yes
2435X37200	3500 PSI 3/8" EXPOSED W/FLY ASH/AEA/WRA	0.52	3500	2279	Yes
2435XG7000	3500 PSI 1"-3/8" EXPOSED W/AEA/WRA	0.52	3500	2302	Yes
2435XG7200	3500 PSI 1"-3/8" EXPOSED W/FLY ASH/AEA/WRA	0.52	3500	2299	Yes
2440N15000	4000 PSI 1" W/WRA	0.49	4000	2379	No
2440N17000	4000 PSI 1" W/AEA/WRA	0.47	4000	2310	Yes
2440N17200	4000 PSI 3/4"W/FLYASH/WRA/AEA	0.45	4000	2316	Yes
2440N17500	4000 PSI 1" W/FLY ASH/AEA/WRA	0.37	4000	2302	Yes
2440N17F00	4000 PSI 3/4"W/GGBGS/WRA/AEA	0.45	4000	2317	Yes
2440N18000	4000 PSI 3/8" W/WRA/AEA	0.44	4000	2286	Yes
2440N18F00	4000 PSI 1" W/GGBFS/AEA/WRA	0.42	4000	2283	Yes
2440N1H2M0	4000 PSI 3/4" W/FLYASH/MRWRA	0.49	4000	2364	No
2440N1HFM0	4000 PSI 3/4" W/GGBFS/MRWRA	0.49	4000	2364	No
2440N37000	4000 PSI 3/8" W/AEA/WRA	0.45	4000	2296	Yes
2440N3L2S9	4000 PSI 3/8" W/FLYASH/WRA/HRWRA/AEA	0.42	4000	2226	Yes
2440N3LCS9	4000 PSI 3/8" W/GGBFS/WRA/HRWRA/AEA	0.42	4000	2231	Yes
2440N3R0S0	4000 PSI 3/8" W/WRA/HRWRA	0.42	4000	2335	No
2440N3RC09	4000 PSI 3/8" DRILLED SHAFT W/GGBFS/WRA/MRWRA/RECOVER	0.41	4000	2277	No
2440PGH0M0	4000 PSI 3/4"-3/8" LINE PUMP W/MRWRA	0.48	4000	2365	No
2440PGH2M0	4000 PSI 3/4"-3/8" LINE PUMP W/FLYASH/MRWRA	0.48	4000	2356	No

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
2440PGHFM0	4000 PSI 3/4"-3/8" LINE PUMP W/GGBFS/MRWRA	0.48	4000	2357	No
2440S32000	4000 PSI 3/8" SHOTCRETE W/AEA/WRA	0.43	4000	2255	Yes
2440S32200	4000 PSI SHOTCRETE W/FLYASH/WRA/AEA	0.43	4000	2252	Yes
2440XG7000	4000 PSI 1"-3/8" EXPOSED W/AEA/WRA	0.47	4000	2311	Yes
2444N17009	4500 PSI 3/4" W/WRA/AEA	0.44	4350	2319	Yes
2444V42009	4000 PSI 1 1/2" CRUSHED PAVING W/AEA/WRA	0.43	4000	2347	Yes
2445N1F00M	4500 PSI 1" W/AEA/MRWRA	0.43	4500	2279	Yes
2450N15F00	5000 PSI 3/4" W/GGBFS/WRA	0.41	5000	2395	No
2450N1A0M0	5000 PSI 3/4"W/MRWRA	0.43	5000	2391	No
2450N1A3M0	5000 PSI 3/4"W/FLYASH/MRWRA	0.42	5000	2385	No
2450N1H3S0	5000 PSI 3/4" W/FLYASH/WRA/HRWRA	0.41	5000	2399	No
2450N3R0S0	5000 PSI 3/8" W/WRA/HRWRA	0.45	5000	2339	No
2450N3R2S0	5000 PSI 3/8" W/FLYASH/WRA/HRWRA	0.43	5000	2292	No
2450N3RAS0	5000 PSI 3/8" W/GGBFS/WRA/HRWRA	0.43	5000	2325	No
2450N3V2S9	5000 PSI 3/8" W/FLY ASH/AEA/WRA/HRWRA	0.39	5000	2231	Yes
2450S32200	5000 PSI 3/8" SHOTCRETE W/FLYASH/WRA/AEA	0.37	5000	2263	Yes
2450V42009	5000 PSI 1 1/2" CRUSHED W/AEA/WRA	0.38	5000	2349	Yes
2451N1K0S9	5000 PSI/3000 PSI 3 DAY 3/4" W/WRA/HRWRA/AEA	0.37	5080	2333	Yes
2455N3V0S9	5500 PSI 3/8" W/WRA/HRWRA/AEA	0.4	5500	2236	Yes
2455N3V2S9	5500 PSI 3/8" W/FLYASH/WRA/HRWRA/AEA	0.39	5000	2231	Yes
245HN00000	3500 PSI 1 1/2" W/MRWRA	0.49	As per client's demand	2408	No
245HN05000	3500 PSI 1 1/2" W/WRA	0.5	As per client's demand	2402	No
245HN15000	3500 PSI 3/4" W/WRA	0.53	As per client's demand	2375	No
245HN17000	3500 PSI 3/4" W/WRA/AEA	0.52	As per client's demand	2304	No
245HN1H00M	3000-3500 PSI 1" W/MRWRA	0.55	As per client's demand	2380	No
245HZAWL00	300-800 PSI PUMPABLE CDF W/GGBFS/AEA	0.75	As per client's demand	1976	Yes
245KN17000	3000 PSI 1" W/AEA/WRA/VMA	0.57	As per client's demand	2295	Yes
2460GARCS0	6000 PSI GROUT W/GGBFS/WRA/HRWRA/VMA	0.41	6000	2201	No
2460N15F00	6000 PSI 3/4" W/GGBFS/WRA	0.38	6000	2398	No
2460N1H0S0	6000 PSI 3/4" W/WRA/HRWRA	0.37	6000	2413	No
2460N1H0SK	6000 PSI 3/4" W/WRA/HRWRA/SRA	0.38	6000	2406	No
2460N3R2PV	6000 PSI 3/8" SCC W/FLY ASH/HRWRA/VMA	0.41	6000	2305	No
2460N3RCS0	6000 PSI 3/8" W/GGBFS/WRA/HRWRA	0.41	6000	2320	No
246HCG3F00	4000 PSI 3/4"-3/8" CURB MACHINE W/GGBFS/WRA/AEA	0.4	4000	2288	Yes
246HN07000	3500 PSI 1 1/2" W/AEA/WRA	0.43	As per client's demand	2314	Yes

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
246HN15000	4000-4500 PSI 1" W/WRA	0.45	As per client's demand	2396	No
246HN15200	4500/5000 PSI 3/4" W/FLYASH/WRA	0.45	As per client's demand	2374	No
246HN15F00	4000/4500 PSI 3/4" W/GGBFS/WRA	0.45	As per client's demand	2373	No
246HN17000	4000 PSI 3/4" W/WRA/AEA	0.44	4000	2325	Yes
246HN1F0M0	4000 PSI 3/4" W/MRWRA/AEA	0.44	As per client's demand	2297	Yes
246HPG7300	4000 PSI 3/4"-3/8"CITY OF BEAVERTON W/FLYASH/WRA/AEA	0.44	4000	2265	Yes
246HPG8F00	4000 PSI 3/4"-3/8" LINE PUMP W/GGBFS/WRA/AEA	0.44	4000	2268	Yes
246HZAW800	200-500 PSI PUMPABLE CDF/CLSM W/FLYASH/AEA	0.63	As per client's demand	1960	Yes
246KCG3300	3000/3500 PSI 3/4"-3/8" CURB MACHINE W/FLYASH/WRA/AEA	0.43	3300	2268	Yes
246KCG3F00	3000/3500 3/4"-3/8" CURB MACHINE W/GGBFS/WRA/AEA	0.43	3000	2286	Yes
246KN05000	4000 PSI 1 1/2" W/WRA	0.47	As per client's demand	2396	No
246KN15000	4000 PSI 3/4" W/WRA	0.49	As per client's demand	2392	No
246KN17000	4000 PSI 3/4" W/WRA/AEA	0.47	As per client's demand	2322	Yes
246KN1E0M0	3500/4000 PSI 3/4" W/WRA/AEA	0.48	As per client's demand	2307	Yes
246KN1H0S0	4000 PSI 1" W/WRA/HRWRA	0.46	4000	2405	No
246KN37000	3000 PSI 3/8" W/AEA/WRA	0.52	As per client's demand	2282	Yes
246KPG5300	3000/3500 PSI 3/4"-3/8" LINEPUMP W/FLYASH/WRA	0.51	As per client's demand	2352	No
246KPG5F00	3000/3500 PSI 3/4"-3/8" LINE PUMP W/GGBFS/WRA	0.49	3000	2373	No
246KPG7000	3000/3500 PSI 3/4"-3/8" LINE PUMP W/WRA/AEA	0.49	As per client's demand	2293	Yes
246KPG7300	3000/3500 PSI 3/4"-3/8"LINE PUMP W/FLYASH/WRA/AEA	0.48	3000	2262	Yes
246KPG8F00	3000/3500 3/4"-3/8" LINE PUMP W/GGBFS/WRA/AEA	0.48	3000	2273	Yes
246KPGA000	3000/3500 PSI 3/4"-3/8" LINE PUMP W/WRA	0.5	As per client's demand	2358	No
2470N3R2S0	7000 PSI 3/8" W/FLYASH/WRA/HRWRA	0.39	7000	2315	No
247HG3H000	2000 PSI BLOCK FILL GROUT W/WRA	0.48	As per client's demand	2305	No
247KG3H000	2500 PSI BLOCK FILL GROUT W/WRA	0.51	As per client's demand	2301	No
247KG3K000	2000 PSI 3/8" BLOCK FILL GROUT W/AEA/WRA	0.48	As per client's demand	2264	Yes
247KN37000	3500 PSI 3/8" W/AEA/WRA	0.45	3500	2289	Yes

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
2480N6R2S0	8000 PSI 3/8" W/FLYASH/WRA/HRWRA/VMA/RECOVER	0.34	8000	2306	No
248KG3R000	8 SACK GROUT 3/8"W /WRA	0.48	As per client's demand	2285	No
249KGAR000	9 SACK GROUT W/WRA/VMA	0.57	As per client's demand	2166	No
24C1LAW0H9	100 PSI CDF/CLSM CHUTE ONLY W/AEA	1.45	100	1888	No
24F0N1H0S0	5000 PSI 3/4"W/WRA/HRWRA	0.38	5000	2412	No
24F2N1AFM0	5000 PSI 1" W/GGBFS/MRWRA	0.4	5000	2388	No
24F2N3R3P0	4000/5000 PSI SCC W/FLYASH/HRWRA/VMA	0.4	4000	2338	No
24F2N3RCPO	4500/5000 PSI 3/8" SCC W/GGBFS/HRWRA/VMA	0.4	5000	2341	No
24F2N6H1S0	8000 PSI 1/2" W/FLYASH/WRA/HRWRA/RECOVER	0.37	As per client's demand	2381	No
24F4N1H0S0	4000/4500 PSI 3/4" W/WRA/HRWRA	0.42	As per client's demand	2397	No
24F4N1H0SK	3000/3500/4000 PSI W/WRA/HRWRA/SRA	0.42	4000	2389	No
24F4N1H2S0	4000/4500 PSI 3/4" W/FLYASH/WRA/HRWRA	0.42	As per client's demand	2388	No
24F5N1A2M0	4000 PSI 3/4" W/FLYASH/MRWRA	0.44	As per client's demand	2383	No
24F5N1H0S0	4500/4500 PSI 3/4" W/WRA/HRWRA	0.44	As per client's demand	2416	No
24F5N1LAS9	4000 PSI 1" W/GGBFS/AEA/WRA/HRWRA	0.4	4000	2317	Yes
24F5PGE2M0	4000 PSI 3/4"-3/8" LINE PUMP W/FLYASH/MRWRA/AEA	0.43	As per client's demand	2291	Yes
24F5PGEFM0	4000 PSI 3/4"-3/8" LINE PUMP W/GGBFS/MRWRA/AEA	0.43	As per client's demand	2289	Yes
24F8N3A1S0	4000/4500 PSI 3/8" W/FLYASH/WRA/HRWRA	0.45	As per client's demand	2333	No
24NAZYW701	21 SACK CEMENT SLURRY	0.5	As per client's demand	1748	No
24T5N1LASJ	4000 PSI 1" W/GGBFS/AEA/WRA/HRWRA/SRA	0.33	5000	2298	Yes
24V0N1A00M	4000 PSI 3/4" W/MRWRA	0.48	As per client's demand	2392	No
24V0N1A0MZ	4000 PSI 1" W/MRWRA/VAPOR LOCK 20-20	0.48	As per client's demand	2392	No
24V1N15300	4000 PSI 3/4" W/FLYASH/WRA	0.48	As per client's demand	2370	No
24V1N15F00	4000 PSI 3/4" W/GGBFS/WRA	0.48	As per client's demand	2371	No
24V2N1A00M	3500/4000 PSI 3/4" W/MRWRA	0.5	3000	2392	No



Table 4 Declared Product Range Classification, Sundial Plant (112 Mix Designs)

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
246KPG8F00	3000/3500 3/4"-3/8" LINE PUMP W/GGBFS/WRA/AEA	0.48	3000	2273	Yes
246KCG3F00	3000/3500 3/4"-3/8" CURB MACHINE W/GGBFS/WRA/AEA	0.43	3000	2286	Yes
2430B1H0S0	5000 PSI/3000 PSI 3 DAY 3/4" W/WRA/HRWRA	0.42	3000	2404	Yes
24V0N1A00M	4000 PSI 3/4" W/MRWRA	0.48	As per client's demand	2392	No
240KGAR0S0	10 SACK GROUT W/WRA/HRWRA/VMA	0.48	5000	2246	No
2430N15200	3000 PSI 3/4"W/FLYASH/WRA	0.54	3000	2364	No
2450N1A0M0	5000 PSI 3/4"W/MRWRA	0.43	5000	2391	No
2440N17200	4000 PSI 3/4"W/FLYASH/WRA/AEA	0.42	4000	2332	Yes
246HPG8F00	4000 PSI 3/4"-3/8" LINE PUMP W/GGBFS/WRA/AEA	0.44	4000	2268	Yes
240KGAR000	10 SACK GROUT W/WRA/VMA	0.52	As per client's demand	2219	No
246HN1F0M0	4000 PSI 3/4" W/MRWRA/AEA	0.44	4000	2297	Yes
246HZAW800	200-500 PSI PUMPABLE CDF/CLSM W/FLYASH/AEA	0.63	As per client's demand	1960	Yes
2451N1K0S9	5000 PSI/3000 PSI 3 DAY 3/4" W/WRA/HRWRA/AEA	0.37	5080	2333	Yes
247HG3H000	2000 PSI BLOCK FILL GROUT W/WRA	0.48	As per client's demand	2305	No
2450N1A3M0	5000 PSI 3/4"W/FLYASH/MRWRA	0.42	5000	2385	No
246KPG5F00	3000/3500 PSI 3/4"-3/8" LINE PUMP W/GGBFS/WRA	0.49	3000	2373	No
2440PGH2M0	4000 PSI 3/4"-3/8" LINE PUMP W/FLYASH/MRWRA	0.48	4000	2356	No
246HN15F00	4000/4500 PSI 3/4" W/GGBFS/WRA	0.45	As per client's demand	2373	No
246KPGA000	3000/3500 PSI 3/4"-3/8" LINE PUMP W/WRA	0.5	As per client's demand	2358	No
2444N17009	4500 PSI 3/4" W/WRA/AEA	0.44	4350	2319	Yes
2450N3R2S0	5000 PSI 3/8" W/FLYASH/WRA/HRWRA	0.43	5000	2292	No
2455N3V2S9	5500 PSI 3/8" W/FLYASH/WRA/HRWRA/AEA	0.39	5500	2231	Yes
2440N1H2M0	4000 PSI 3/4" W/FLYASH/MRWRA	0.49	4000	2364	No
2440N3R0S0	4000 PSI 3/8" W/WRA/HRWRA	0.42	4000	2335	No
2460N3RCS0	6000 PSI 3/8" W/GGBFS/WRA/HRWRA	0.41	6000	2320	No
24V1N15F00	4000 PSI 3/4" W/GGBFS/WRA	0.48	As per client's demand	2371	No
2450S32200	5000 PSI 3/8" SHOTCRETE W/FLYASH/WRA/AEA	0.37	5000	2263	Yes
2450N3RAS0	5000 PSI 3/8" W/GGBFS/WRA/HRWRA	0.43	5000	2325	No
2440N3LCS9	4000 PSI 3/8" W/GGBFS/WRA/HRWRA/AEA	0.42	4000	2231	Yes
2460GARCS0	6000 PSI GROUT W/GGBFS/WRA/HRWRA/VMA	0.41	6000	2201	No
2440N3RC09	4000 PSI 3/8" DRILLED SHAFT W/GGBFS/WRA/MRWRA/RECOVER	0.41	4000	2277	No
2440N18000	4000 PSI 3/8" W/WRA/AEA	0.44	4000	2286	Yes

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
247KG3H000	2500 PSI BLOCK FILL GROUT W/WRA	0.51	As per client's demand	2301	No
24F4N1H0SK	3000/3500/4000 PSI W/WRA/HRWRA/SRA	0.42	4000	2389	No
2440PGHFM0	4000 PSI 3/4"-3/8" LINE PUMP W/GGBFS/MRWRA	0.48	4000	2357	No
2440N3L2S9	4000 PSI 3/8" W/FLYASH/WRA/HRWRA/AEA	0.42	4000	2226	Yes
24F5PGEFM0	4000 PSI 3/4"-3/8" LINE PUMP W/GGBFS/MRWRA/AEA	0.43	As per client's demand	2289	Yes
2433N17200	3300 PSI 3/4" W/FLYASH/WRA/AEA	0.47	3300	2320	Yes
2440S32200	4000 PSI SHOTCRETE W/FLYASH/WRA/AEA	0.43	4000	2252	Yes
2440N1HFM0	4000 PSI 3/4" W/GGBFS/MRWRA	0.49	4000	2364	No
2450N1K2S0	5000 PSI 3/4" W/FLYASH/WRA/HRWRA/AEA	0.4	5000	2308	Yes
2440N18200	4000 PSI 3/4" W/FLYASH/WRA/AEA	0.38	4000	2284	Yes
246KN05000	4000 PSI 1 1/2" W/WRA	0.47	As per client's demand	2396	No
246KPG5300	3000/3500 PSI 3/4"-3/8" LINEPUMP W/FLYASH/WRA	0.51	As per client's demand	2352	No
245HN15000	3500 PSI 3/4" W/WRA	0.53	As per client's demand	2375	No
2430N17200	3000 PSI 3/4" W/FLYASH/WRA/AEA	0.53	3000	2289	Yes
246KN1E0M0	3500/4000 PSI 3/4" W/WRA/AEA	0.48	As per client's demand	2307	Yes
2450N1H3S0	5000 PSI 3/4" W/FLYASH/WRA/HRWRA	0.41	5000	2399	No
24F5PGE2M0	4000 PSI 3/4"-3/8" LINE PUMP W/FLYASH/MRWRA/AEA	0.43	As per client's demand	2288	Yes
24F4N1H2S0	4000/4500 PSI 3/4" W/FLYASH/WRA/HRWRA	0.42	As per client's demand	2388	No
24F5N1A2M0	4000 PSI 3/4" W/FLYASH/MRWRA	0.44	As per client's demand	2383	No
246KN17000	4000 PSI 3/4" W/WRA/AEA	0.47	As per client's demand	2322	Yes
2433N17009	3300 PSI 3/4" W/WRA/AEA	0.46	3300	2330	Yes
2440PGH0M0	4000 PSI 3/4"-3/8" LINE PUMP W/MRWRA	0.48	4000	2365	No
24F4N1H0S0	4000/4500 PSI 3/4" W/WRA/HRWRA	0.42	As per client's demand	2397	No
245TN15200	3500 PSI 3/4" W/FLYASH/WRA	0.51	3500	2367	No
245HN05000	3500 PSI 1 1/2" W/WRA	0.5	As per client's demand	2402	No
245HN17000	3500 PSI 3/4" W/WRA/AEA	0.52	As per client's demand	2304	No
246KN15000	4000 PSI 3/4" W/WRA	0.49	As per client's demand	2392	No
2440N17F00	4000 PSI 3/4"W/GGBGS/WRA/AEA	0.45	4000	2317	Yes
246KPG7300	3000/3500 PSI 3/4"-3/8"LINE PUMP W/FLYASH/WRA/AEA	0.48	3000	2262	Yes
24C1LAW0H9	100 PSI CDF/CLSM CHUTE ONLY W/AEA	1.45	100	1888	No

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
249KGAR000	9 SACK GROUT W/WRA/VMA	0.57	As per client's demand	2166	No
24V1N15300	4000 PSI 3/4" W/FLYASH/WRA	0.48	As per client's demand	2370	No
2480N6R2S0	8000 PSI 3/8" W/FLYASH/WRA/HRWRA/VMA/RECOVER	0.34	8000	2306	No
246KCG3300	3000/3500 PSI 3/4"-3/8" CURB MACHINE W/FLYASH/WRA/AEA	0.43	3300	2268	Yes
246HN17000	4000 PSI 3/4" W/WRA/AEA	0.44	4000	2312	Yes
246KPG7000	3000/3500 PSI 3/4'-3/8" LINE PUMP W/WRA/AEA	0.49	As per client's demand	2301	Yes
2450N3R0S0	5000 PSI 3/8" W/WRA/HRWRA	0.45	5000	2339	No
24F2N1H0S0	4500/5000 PSI 3/4" W/WRA/HRWRA	0.4	As per client's demand	2407	No
24F2N6H1S0	8000 PSI 1/2" W/FLYASH/WRA/HRWRA/RECOVER	0.37	As per client's demand	2381	No
24F6N17300	4000 PSI 3/4" W/FLYASH/WRA/AEA	0.44	4000	2300	Yes
2430XG7300	3000 PSI 1"-3/8" W/FLY ASH/AEA/WRA	0.52	3000	2271	Yes
2430R1A0V0	3000 PSI 1" W/WRA/VMA	0.62	3000	2354	No
2430R1C0V0	3000 PSI 1" W/AEA/WRA/VMA	0.58	3000	2318	Yes
2430R1CFV0	3000 PSI 1" W/GGBFS/AEA/WRA/VMA	0.58	3000	2312	Yes
246KN1H0S0	4000 PSI 1" W/WRA/HRWRA	0.46	4000	2405	No
2440N17500	4000 PSI 1" W/FLY ASH/AEA/WRA	0.42	4000	2300	Yes
2435N15200	3500 PSI 1" W/FLY ASH/WRA	0.48	3500	2385	No
2435XG7000	3500 PSI 1"-3/8" EXPOSED W/AEA/WRA	0.52	3500	2307	Yes
2435X37000	3500 PSI 3/8" EXPOSED W/AEA/WRA	0.52	3500	2253	Yes
2430XG7F00	3000 PSI 1"-3/8" EXPOSED W/GGBFS/AEA/WRA	0.57	3000	2271	Yes
2435N15000	3500 PSI 1" W/WRA	0.52	3500	2396	No
2430XG7000	3000 PSI 1"-3/8" EXPOSED W/AEA/WRA	0.57	3000	2300	Yes
246KN37000	3000 PSI 3/8" W/AEA/WRA	0.52	As per client's demand	2282	Yes
2435N35000	3500 PSI 3/8" W/WRA	0.56	3500	2310	No
2430N15000	3000 PSI 1" W/WRA	0.59	3000	2381	No
2430R1AFV0	3000 PSI 1" W/GGBFS/WRA/VMA	0.62	3000	2349	No
2435N17000	3500 PSI 1" W/AEA/WRA	0.52	3500	2304	Yes
24NAGYR001	15.76 SACK CEMENT SLURRY	0.82	As per client's demand	1583	No
2445N1F00M	4500 PSI 1" W/AEA/MRWRA	0.43	4500	2279	Yes
24F5N1LAS9	4000 PSI 1" W/GGBFS/AEA/WRA/HRWRA	0.4	4000	2317	Yes
2440XG7000	4000 PSI 1"-3/8" EXPOSED W/AEA/WRA	0.47	4000	2311	Yes
2435N17200	3500 PSI 1" W/FLY ASH/AEA/WRA	0.53	3500	2284	Yes
2430N17000	3000 PSI 1" W/AEA/WRA	0.52	3000	2304	Yes
24NAGYR000	20.67 SACK CEMENT SLURRY	0.39	As per client's demand	2281	No

Mix ID	Description	w/c	Compressive Strength (Psi) at 28 days	Unit Weight (wet)	Air
240KGAR0SL	10 SACK GROUT W/WRA/HRWRA/SRA	0.42	4000	2283	Yes
2440N18F00	4000 PSI 1" W/GGBFS/AEA/WRA	0.55	3000	2262	Yes
2430P3K000	3000 PSI 3/8" LINE PUMP W/AEA/WRA	0.41	4000	2266	No
2440N3R309	4000 PSI 3/8" DRILLED SHAFT W/FLY ASH/WRA/MRWRA/RECOVER	0.51	3000	2246	Yes
2430P3K400	3000 PSI 3/8" LINE PUMP W/FLY ASH/AEA/WRA	0.45	3500	2289	Yes
247KN37000	3500 PSI 3/8" W/AEA/WRA	0.48	As per client's demand	2285	No
248KG3R000	8 SACK GROUT 3/8"W /WRA	0.45	As per client's demand	2396	No
246HN15000	4000-4500 PSI 1" W/WRA	0.49	4000	2379	No
2440N15000	4000 PSI 1" W/WRA	0.43	As per client's demand	2415	No
246KNOA0S0	3500 PSI 1 1/2" W/WRA/HRWRA	0.43	As per client's demand	2417	Yes
2450N3V2S9	5000 PSI 3/8" W/FLY ASH/AEA/WRA/HRWRA	0.48	As per client's demand	2264	Yes
247KG3K000	2000 PSI 3/8" BLOCK FILL GROUT W/AEA/WRA	0.41	4000	2233	Yes
2440P3U2S0	4000 PSI 3/8" W/FLY ASH/AEA/WRA/HRWARA	0.41	4000	2254	Yes
2440N17000	4000 PSI 1" W/AEA/WRA	0.43	As per client's demand	2330	Yes
246KN07000	3500 PSI 1 1/2" W/AEA/WRA	0.75	As per client's demand	1976	Yes
245HZAWL00	300-800 PSI PUMPABLE CDF W/GGBFS/AEA	0.55	As per client's demand	1769	No

## Life Cycle Assessment

This EPD is based on a 'cradle-to-gate' life cycle assessment (LCA) of various ready mixed concrete. A summary of the life cycle stages included in the EPD are as follows:

1. Raw material supply (upstream processes): Extraction, handling, and processing of the raw materials used in production of concrete: cement, supplementary cementitious materials, aggregate (coarse and fine), water, admixtures, and other materials or chemicals used in concrete mixtures.
2. Transportation: Transportation of these materials from supplier to the gate of the concrete producer.
3. Manufacturing (core processes): Energy used to store, batch, mix, and distribute the concrete and operate the facility (concrete plant).
4. Water use in mixing and distributing concrete.

A summary of processes excluded from the EPD is as follows:

1. Production, manufacture, and construction of buildings, capital goods, and infrastructure.
2. Production and manufacture of concrete production equipment, concrete delivery vehicles, earthmoving equipment, and laboratory equipment.
3. Personnel-related activities (travel, furniture, office supplies).

4. Energy and water use related to company management and sales activities.

A summary of the limitations of this EPD include the following:

1. This EPD does not report all environmental impacts due to manufacturing of the product, but rather environmental impacts for categories with established LCA-based methods to track and report. Unreported environmental impacts include (but are not limited to) factors attributable to human health, land use change, water use in the upstream manufacturing process, and habitat destruction.
2. This EPD reports the results of an LCA for ‘cradle-to-gate’ analysis. Thus, declarations themselves are not comparative assertions, defined as an environmental claim regarding the superiority or equivalence of one product versus a competing product that performs the same function. An EPD does not make any statements that the product covered by the EPD is better or worse than any other product.
3. To assess the local impacts of product manufacturing, additional analysis is required.
4. Life cycle impact assessment results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.

This EPD has been developed using the Quantis 2017 (WBCSD-CSI tool for EPD of concrete and cement v1.5 - U.S. version, <https://concrete-epd-tool.org/>).

## Data Comparability

EPDs of concrete mixtures may not be comparable if they do not comply with this standard and data from this EPD. While EPDs can be used to compare concrete mixes, the data cannot be used to compare between construction products or concrete mixes used in different concrete products unless the data is integrated into a comprehensive LCA. For example, precast concrete, concrete masonry units, and site-cast concrete all have different manufacturing processes whose impacts are attributed to different LCA stages. This precludes direct comparison between mixes used in these different products until all life cycle phases are included.

## Data Sources and Data Quality Assessment

This EPD is based on foreground LCI data collected from Knife River Corporation production facilities. All upstream material, resource and energy carrier inputs have been sourced from various industry-average datasets and literature and were pre-verified during tool verification. Tables 5 to 7 describe each LCI data source for raw materials (A1), transportation by mode (A2), the ready mix concrete core manufacture process (A3), and descriptions of data quality for each data source. This EPD was created using industry-average data for upstream materials. Variation can result from differences in supplier locations, manufacturing processes, manufacturing efficiency and fuel type used.

The original data quality assessment done in the tool was based on Manfredi et al. (2012), Product Environmental Footprint (PEF) Guide. Overall, the data quality indicators are very similar but the method of “scoring” the quality of the data is done differently. The tables below rate the data quality originally verified in the tool against the required criteria of the PCR using guidance from “Product Life Cycle Accounting and Reporting Standard” (GHG Protocol 2011) to rate each data indicator as “very good”, “good”, “fair”, or “poor”.

**Table 5 A1 – Raw Material Supply**

Material\Unit	LCI data source	Geography	Year	Data Quality Assessment
Cement (lbs)	WBCSD-CSI tool for EPDs of concrete and cement - Background Report. Korean-specific clinker factors and kiln fuels assumed.*	South Korea	2014-2015	<ul style="list-style-type: none"> <li>• Technology: good, Process represents average cement production in Korea.</li> <li>• Time: very good, Data is within 5 years.</li> <li>• Geography: very good</li> <li>• Completeness: good, Data is based on an average of regional production.</li> <li>• Reliability: very good</li> </ul>
Slag Cement (lbs)	Slag Cement Association N. American EPD of Slag Cement, 2015	N. America	2013-2014	<ul style="list-style-type: none"> <li>• Technology: good, Process models ground granulated blast furnace slag.</li> <li>• Time: good, Data is within 5 years.</li> <li>• Geography: Fair, material is sourced from China, but data used represents N. American Slag, which includes 5% foreign imports of finished product and 30% foreign imports of slag that needs further grinding.</li> <li>• Completeness: good</li> <li>• Reliability: very good</li> </ul>
Fly Ash (lbs)	None, no incoming burden. Only inbound transport was considered	N/A	N/A	N/A
Crushed Aggregates (lbs) coarse and fine	ecoinvent 3.1 process: "Gravel, crushed, production, CA-QC"	Quebec, Canada	2001	<ul style="list-style-type: none"> <li>• technology: fair; process represents current technology for gravel and sand quarry operations in Switzerland</li> <li>• time: poor; data is older than ten years</li> <li>• geography: fair; Process models production based on Swiss data and is adjusted for the rest of the world</li> <li>• completeness: very good; process is 100% representative of Swiss production</li> <li>• reliability: fair; Data is verified by ecoinvent with the following caveat: "This is a dataset automatically generated based on a dataset transferred from</li> </ul>

				ecoSpold v1 / ecoinvent database version 2. It may not in all aspects fulfill the requirements of the ecoinvent data quality guideline for version 3."
Natural Aggregates (lbs) coarse and fine	ecoinvent 3.1 process: "Gravel, round, market for, GLO"	Global	2011	<ul style="list-style-type: none"> <li>• Technology: good</li> <li>• Time: fair</li> <li>• Geography: fair</li> <li>• Completeness: fair</li> <li>• Reliability: fair</li> </ul>
Sand (lbs)	Ecoinvent 3.1 process: "Sand, market for, GLO"	Global	2011	<ul style="list-style-type: none"> <li>• Technology: good</li> <li>• Time: fair</li> <li>• Geography: fair</li> <li>• Completeness: fair</li> <li>• Reliability: fair</li> </ul>
Admixtures (lbs): Accelerator, Air Entrainer, Plasticizer, Retarder, Superplasticizer, Water proofer	EFCA EcoProfiles (301, 324 and 325) <a href="http://www.efca.info/efca-publications/environmental/">http://www.efca.info/efca-publications/environmental/</a>	EU	2005-2006	<ul style="list-style-type: none"> <li>• Technology: very good, Processes represents admixture production for use in concrete</li> <li>• Time: fair, Data is within ten years</li> <li>• Geography: fair</li> <li>• Completeness: good, Data from a federation of European admixture producers</li> <li>• Reliability: good, Profiles have undergone an independent review process. Compliance with ISO standards (unknown)</li> </ul>

**Table 6: A2 – Transportation**

Process	LCI data source	Geography	Year	Data Quality Assessment
Truck, rail, and boat (lbs*miles)	USLCI – combination truck for all materials (corrected by Quantis to take fuels into consideration) except admixtures and packaging which are in single unit, diesel powered; rail transport, diesel powered; boat, adapted from barge, average fuel mix	USA	2008	<ul style="list-style-type: none"> <li>• Technology: very good, Process represents U.S. average transportation profiles</li> <li>• Time: fair, Data is within 10 years</li> <li>• Geography: good</li> <li>• Completeness: good</li> <li>• Reliability: good</li> </ul>

**Table 7: A3 - Manufacturing**

Process	LCI data source	Geography	Year	Data Quality Assessment
Electricity (kWh)	ecoinvent 3.1, Sources of electricity for WECC grid mix modeled in ecoinvent 3.1, adapted to include the 2012 grid mix from USEPA eGRID, custom	USA/Oregon	2012	<ul style="list-style-type: none"> <li>• Technology: very good</li> <li>• Time: fair, Data is within ten years.</li> <li>• Geography: very good</li> </ul>

	process: “Electricity, low voltage {WECC}   market for (custom, 2012 USEPA eGRID data)”			<ul style="list-style-type: none"> <li>• Completeness: good, Data is representative of Oregon production.</li> <li>• Reliability: good, Data has been verified byecoinvent.</li> </ul>
Natural Gas (cu. ft.)	ecoinvent 3.1 process: “natural gas, high pressure, market for, US,”	USA	2010	<ul style="list-style-type: none"> <li>• Technology: very good</li> <li>• Time: fair, data is within 10 years</li> <li>• Geography: very good</li> <li>• Completeness: good</li> <li>• Reliability: good</li> </ul>
Diesel (gallon)	ecoinvent 3.1 process: “Diesel, market for, RoW”	Global	2011	<ul style="list-style-type: none"> <li>• Technology: very good</li> <li>• Time: fair, within 10 years</li> <li>• Geography: good</li> <li>• Completeness: good</li> <li>• Reliability: very good</li> </ul>
Non-Hazardous Solid Waste (lbs)	ecoinvent 3.1 process: “Inert waste, market for, (GLO)”	Global	2011	<ul style="list-style-type: none"> <li>• Technology: good</li> <li>• Time: fair, within 10 years,</li> <li>• Geography: fair</li> <li>• Completeness: very good</li> <li>• Reliability: very good</li> </ul>

## Environmental Impacts

This EPD covers the required set of environmental impact categories in accordance with the PCR, Section 3.2 [Carbon Leadership Forum 2013]:

LCIA Indicators		Abbreviations	Units
<b>Life Cycle Impact Assessment Category</b>			
1	Global Warming Potential (climate change)	<b>GWP</b>	kg CO <sub>2</sub> -eq
2	Acidification Potential	<b>AP</b>	kg SO <sub>2</sub> -eq
3	Eutrophication Potential	<b>EP</b>	kg N-eq
4	Photochemical Ozone Creation/Smog Potential	<b>POCP</b>	kg O <sub>3</sub> -eq
5	Ozone Depletion Potential	<b>ODP</b>	kg CFC-11-eq
<b>Life Cycle Inventory Data</b>			
6	Total primary energy consumption	<b>PEC</b>	MJ, higher heating value
7	Depletion of non-renewable energy resources	<b>NRE</b>	MJ, higher heating value
8	Use of renewable primary energy	<b>RE</b>	MJ, higher heating value
9	Depletion of non-renewable material resources	<b>NRM</b>	kg
10	Use of renewable material resources	<b>RM</b>	kg
11	Concrete batching water consumption	<b>CBW</b>	m <sup>3</sup>
12	Concrete washing water consumption	<b>CWW</b>	m <sup>3</sup>
13	Total water consumption	<b>TW</b>	m <sup>3</sup>
14	Concrete hazardous waste	<b>CHW</b>	kg
15	Concrete non-hazardous waste	<b>CNHW</b>	kg



The following table shows environmental impacts per yd<sup>3</sup> of concrete mixes covered in this EPD using the abbreviations and units from the previous table.

Table 5 Summary Results (A1-A3): Coffee Lake Plant, per cubic yard

LCIA methodology Score: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
240KGAR000	416.80	1.20	0.59	19.28	0.00	2244.67	2167.44	77.22	1845.62	0.66	0.23	0.29	5.76	0.00	92.08
240KGAR0S0	417.73	1.21	0.59	19.37	0.00	2272.38	2196.02	76.36	1884.92	0.64	0.20	0.29	5.67	0.00	92.08
240KGAR0SL	430.22	1.30	0.64	20.16	0.00	2440.40	2352.09	88.31	1833.24	0.88	0.21	0.29	7.04	0.00	92.08
2430B1H0S0	300.52	0.92	0.43	15.09	0.00	1755.95	1696.51	59.45	2029.13	0.56	0.13	0.29	5.21	0.00	92.08
2430B420M9	328.46	0.97	0.48	15.29	0.00	1865.31	1772.13	93.18	1986.87	0.62	0.13	0.29	5.27	0.00	92.08
2430N15000	225.14	0.72	0.33	12.10	0.00	1389.15	1341.22	47.93	1971.52	0.48	0.13	0.29	4.71	0.00	92.08
2430N15200	196.05	0.64	0.29	10.92	0.00	1252.44	1209.00	43.45	1912.64	0.46	0.13	0.29	4.48	0.00	92.08
2430N17000	220.67	0.71	0.32	11.86	0.00	1364.17	1316.99	47.18	1914.19	0.48	0.12	0.29	4.62	0.00	92.08
2430N17200	195.40	0.64	0.29	10.82	0.00	1242.30	1199.25	43.04	1858.65	0.45	0.12	0.29	4.39	0.00	92.08
2430P3K000	262.36	0.81	0.38	13.39	0.00	1543.42	1490.39	53.04	1874.62	0.51	0.14	0.29	4.77	0.00	92.08
2430P3K400	227.33	0.72	0.33	11.94	0.00	1377.16	1329.52	47.64	1783.86	0.47	0.14	0.29	4.48	0.00	92.08
2430R1A0V0	209.51	0.68	0.31	11.49	0.00	1324.46	1278.17	46.30	1935.15	0.49	0.14	0.29	4.70	0.00	92.08
2430R1AFV0	165.01	0.67	0.26	10.95	0.00	1228.25	1185.50	42.75	1835.31	0.59	0.14	0.29	4.28	0.00	92.08
2430R1C0V0	209.13	0.68	0.31	11.43	0.00	1318.44	1272.38	46.05	1903.15	0.48	0.13	0.29	4.64	0.00	92.08
2430R1CFV0	164.63	0.67	0.25	10.89	0.00	1222.23	1179.72	42.51	1803.31	0.59	0.13	0.29	4.23	0.00	92.08
2430XG7000	224.33	0.71	0.33	11.98	0.00	1376.55	1329.10	47.44	1904.53	0.47	0.12	0.29	4.60	0.00	92.08
2430XG7300	186.96	0.62	0.28	10.46	0.00	1201.12	1159.44	41.69	1830.69	0.44	0.12	0.29	4.31	0.00	92.08
2430XG7F00	175.69	0.70	0.27	11.39	0.00	1271.37	1227.81	43.56	1795.28	0.59	0.12	0.29	4.15	0.00	92.08
2433N17009	265.63	0.82	0.38	13.61	0.00	1567.21	1513.35	53.86	1943.08	0.52	0.12	0.29	4.89	0.00	92.08
2433N17200	226.22	0.72	0.33	12.02	0.00	1382.99	1335.23	47.76	1876.43	0.48	0.12	0.29	4.58	0.00	92.08
2433N17F00	204.63	0.80	0.31	12.82	0.00	1430.96	1382.09	48.86	1818.76	0.65	0.12	0.29	4.34	0.00	92.08
2435N15000	237.51	0.75	0.35	12.59	0.00	1446.06	1396.22	49.85	1981.53	0.50	0.13	0.29	4.80	0.00	92.08
2435N15200	196.05	0.64	0.29	10.92	0.00	1252.44	1209.00	43.45	1912.64	0.46	0.13	0.29	4.48	0.00	92.08

LCIA methodology Score: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
2435N17000	243.74	0.76	0.35	12.75	0.00	1466.14	1415.68	50.46	1922.30	0.49	0.12	0.29	4.73	0.00	92.08
2435N17200	215.86	0.69	0.32	11.60	0.00	1334.65	1288.49	46.16	1860.20	0.47	0.12	0.29	4.51	0.00	92.08
2435N35000	263.03	0.81	0.38	13.49	0.00	1553.85	1500.42	53.43	1930.60	0.51	0.14	0.29	4.86	0.00	92.08
2435X37000	243.27	0.76	0.35	12.67	0.00	1458.81	1408.61	50.20	1883.33	0.49	0.14	0.29	4.68	0.00	92.08
2435XG7000	243.72	0.76	0.35	12.74	0.00	1465.83	1415.38	50.45	1920.81	0.49	0.12	0.29	4.73	0.00	92.08
2436N17209	236.77	0.75	0.35	12.46	0.00	1434.16	1384.66	49.50	1902.69	0.49	0.12	0.29	4.68	0.00	92.08
2440N15200	212.52	0.69	0.31	11.56	0.00	1327.88	1281.89	46.00	1921.68	0.47	0.13	0.29	4.59	0.00	92.08
2440N17000	253.22	0.79	0.37	13.12	0.00	1509.72	1457.80	51.92	1930.06	0.50	0.12	0.29	4.80	0.00	92.08
2440N17200	240.60	0.75	0.35	12.57	0.00	1448.43	1398.43	50.00	1877.75	0.49	0.12	0.29	4.67	0.00	92.08
2440N17500	206.50	0.67	0.30	11.18	0.00	1287.68	1242.94	44.74	1803.41	0.46	0.12	0.29	4.40	0.00	92.08
2440N17F00	215.89	0.84	0.32	13.34	0.00	1489.64	1438.83	50.81	1812.35	0.67	0.12	0.29	4.39	0.00	92.08
2440N18000	282.11	0.86	0.41	14.21	0.00	1638.46	1582.23	56.23	1922.36	0.53	0.13	0.29	4.95	0.00	92.08
2440N18F00	227.98	0.88	0.34	13.90	0.00	1552.51	1499.63	52.88	1794.96	0.70	0.12	0.29	4.43	0.00	92.08
2440N1H2M0	238.17	0.76	0.35	12.57	0.00	1453.59	1402.83	50.76	1922.85	0.52	0.13	0.29	4.85	0.00	92.08
2440N35000	301.78	0.91	0.43	15.01	0.00	1732.08	1672.65	59.43	1961.64	0.55	0.15	0.29	5.13	0.00	92.08
2440N3L2S9	293.85	0.89	0.42	14.57	0.00	1693.53	1635.80	57.73	1838.84	0.53	0.14	0.29	4.91	0.00	92.08
2440N3LCS9	299.49	0.97	0.43	15.58	0.00	1789.94	1729.29	60.65	1843.26	0.63	0.14	0.29	4.92	0.00	92.08
2440N3ROSO	264.25	0.83	0.38	13.60	0.00	1578.17	1524.50	53.67	1960.60	0.52	0.13	0.29	4.91	0.00	92.08
2440PGH0M0	283.65	0.87	0.41	14.39	0.00	1664.58	1606.82	57.76	1983.27	0.56	0.14	0.29	5.18	0.00	92.08
2440PGH2M0	236.06	0.75	0.35	12.48	0.00	1443.28	1392.84	50.43	1914.62	0.51	0.13	0.29	4.83	0.00	92.08
2440PGHF0M0	212.72	0.83	0.32	13.21	0.00	1482.18	1430.99	51.19	1852.91	0.68	0.13	0.29	4.57	0.00	92.08
2440S30200	277.53	0.85	0.40	14.00	0.00	1616.15	1560.47	55.68	1890.33	0.53	0.14	0.29	4.91	0.00	92.08
2440S32000	296.36	0.89	0.42	14.71	0.00	1687.28	1630.23	57.04	1925.68	0.51	0.14	0.29	4.85	0.00	92.08
2440S32200	277.01	0.84	0.40	13.92	0.00	1608.09	1552.72	55.37	1846.84	0.52	0.14	0.29	4.84	0.00	92.08
2440V42009	281.12	0.82	0.41	13.32	0.00	1583.84	1499.03	84.81	1983.54	0.53	0.12	0.29	4.71	0.00	92.08
2440X37000	282.03	0.86	0.41	14.20	0.00	1637.10	1580.91	56.19	1914.87	0.53	0.14	0.29	4.94	0.00	92.08
2440XG7000	265.44	0.82	0.38	13.58	0.00	1564.27	1510.52	53.75	1927.09	0.51	0.13	0.29	4.86	0.00	92.08

LCIA methodology Score: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
2444N17009	290.09	0.88	0.42	14.54	0.00	1676.72	1619.19	57.53	1940.12	0.54	0.13	0.29	5.02	0.00	92.08
2444V42009	275.15	0.81	0.40	13.11	0.00	1558.08	1475.01	83.07	1977.43	0.52	0.12	0.29	4.68	0.00	92.08
2445N17000	321.14	0.96	0.46	15.77	0.00	1821.04	1758.65	62.38	1975.89	0.57	0.13	0.29	5.24	0.00	92.08
2450N15300	233.02	0.74	0.34	12.34	0.00	1420.60	1371.42	49.18	1918.30	0.49	0.13	0.29	4.71	0.00	92.08
2450N1A0M0	300.39	0.92	0.44	15.06	0.00	1744.04	1683.55	60.48	2009.83	0.58	0.14	0.29	5.32	0.00	92.08
2450N1A3M0	254.92	0.80	0.37	13.23	0.00	1532.80	1479.18	53.62	1928.59	0.54	0.13	0.29	4.99	0.00	92.08
2450N1H3S0	242.14	0.77	0.35	12.73	0.00	1476.87	1426.32	50.55	1930.83	0.50	0.12	0.29	4.77	0.00	92.08
2450N1K2S0	284.65	0.88	0.41	14.28	0.00	1665.89	1609.31	56.58	1877.63	0.53	0.13	0.29	4.92	0.00	92.08
2450N3R2S0	278.69	0.86	0.40	14.06	0.00	1642.05	1586.38	55.67	1879.86	0.53	0.14	0.29	4.90	0.00	92.08
2450N3RAS0	285.72	0.96	0.42	15.33	0.00	1762.46	1703.15	59.31	1884.89	0.65	0.14	0.29	4.91	0.00	92.08
2450S32200	328.56	0.98	0.47	15.94	0.00	1845.39	1782.05	63.34	1889.64	0.57	0.14	0.29	5.18	0.00	92.08
2451N1K0S9	330.67	1.00	0.47	16.17	0.00	1887.06	1823.36	63.69	1978.93	0.58	0.13	0.29	5.30	0.00	92.08
2455N3V0S9	340.55	1.01	0.49	16.45	0.00	1916.13	1851.22	64.92	1916.72	0.58	0.14	0.29	5.26	0.00	92.08
2455N3V2S9	314.73	0.95	0.45	15.38	0.00	1794.28	1733.33	60.94	1847.41	0.55	0.14	0.29	5.04	0.00	92.08
245HEA0300	207.73	0.67	0.31	11.33	0.00	1299.14	1254.29	44.85	1891.00	0.46	0.13	0.29	4.48	0.00	92.08
245HN00000	245.81	0.78	0.36	12.97	0.00	1496.43	1444.38	52.05	2009.35	0.52	0.12	0.29	4.99	0.00	92.08
245HN05000	244.68	0.77	0.36	12.89	0.00	1480.86	1429.84	51.02	2000.78	0.50	0.12	0.29	4.86	0.00	92.08
245HN07000	244.16	0.77	0.36	12.81	0.00	1472.68	1421.99	50.69	1957.29	0.50	0.12	0.29	4.79	0.00	92.08
245HN15000	244.39	0.77	0.36	12.84	0.00	1476.38	1425.51	50.86	1976.80	0.50	0.13	0.29	4.83	0.00	92.08
245HN17000	243.74	0.76	0.35	12.75	0.00	1466.14	1415.68	50.46	1922.30	0.49	0.12	0.29	4.73	0.00	92.08
245HZAWL00	90.17	0.68	0.15	10.09	0.00	1050.64	1015.99	34.64	1279.34	0.76	0.18	0.29	2.75	0.00	92.08
245KN15000	225.14	0.72	0.33	12.10	0.00	1389.15	1341.22	47.93	1971.52	0.48	0.13	0.29	4.71	0.00	92.08
245TN15200	224.80	0.72	0.33	12.04	0.00	1383.52	1335.67	47.84	1927.17	0.48	0.13	0.29	4.66	0.00	92.08
2460GARCS0	399.43	1.35	0.59	20.64	0.00	2404.97	2322.10	82.87	1730.00	0.95	0.21	0.29	5.90	0.00	92.08
2460N15F00	252.00	0.96	0.37	15.17	0.00	1693.64	1635.99	57.65	1887.64	0.76	0.13	0.29	4.71	0.00	92.08
2460N3RCS0	305.60	1.05	0.45	16.57	0.00	1897.21	1833.61	63.60	1864.29	0.72	0.15	0.29	4.98	0.00	92.08
246HCG3F00	219.40	0.85	0.33	13.51	0.00	1508.47	1457.06	51.42	1814.86	0.68	0.12	0.29	4.41	0.00	92.08

LCIA methodology Score: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
<b>246HN15000</b>	283.15	0.87	0.41	14.37	0.00	1654.72	1597.87	56.86	2008.84	0.54	0.13	0.29	5.09	0.00	92.08
<b>246HN15200</b>	245.35	0.77	0.36	12.83	0.00	1477.09	1426.05	51.04	1931.76	0.50	0.13	0.29	4.79	0.00	92.08
<b>246HN15F00</b>	220.02	0.85	0.33	13.60	0.00	1518.18	1466.36	51.82	1866.87	0.69	0.13	0.29	4.51	0.00	92.08
<b>246HN17000</b>	282.50	0.86	0.41	14.27	0.00	1644.57	1588.12	56.46	1954.84	0.53	0.12	0.29	5.00	0.00	92.08
<b>246HN1F0M0</b>	283.45	0.87	0.41	14.31	0.00	1656.90	1599.46	57.44	1932.53	0.55	0.12	0.29	5.09	0.00	92.08
<b>246HPG8F00</b>	219.00	0.85	0.33	13.45	0.00	1502.16	1450.96	51.20	1781.39	0.68	0.13	0.29	4.36	0.00	92.08
<b>246HZ340RM</b>	285.82	0.89	0.42	14.40	0.00	1687.27	1627.37	59.91	1861.81	0.60	0.09	0.29	5.31	0.00	92.08
<b>246HZAW800</b>	65.45	0.27	0.11	5.04	0.00	576.08	555.77	20.31	1265.16	0.27	0.18	0.29	2.74	0.00	92.08
<b>246KC33009</b>	265.36	0.82	0.38	13.57	0.00	1563.07	1509.38	53.69	1921.08	0.51	0.12	0.29	4.85	0.00	92.08
<b>246KCG3F00</b>	206.98	0.81	0.31	12.90	0.00	1440.37	1391.21	49.17	1811.26	0.65	0.12	0.29	4.34	0.00	92.08
<b>246KI3K0M0</b>	263.75	0.82	0.38	13.51	0.00	1562.83	1508.59	54.24	1897.23	0.53	0.14	0.29	4.93	0.00	92.08
<b>246KN00000</b>	265.30	0.83	0.39	13.74	0.00	1587.14	1532.00	55.14	2026.67	0.54	0.12	0.29	5.13	0.00	92.08
<b>246KN05000</b>	263.94	0.82	0.38	13.63	0.00	1568.08	1514.13	53.95	2006.06	0.52	0.13	0.29	4.98	0.00	92.08
<b>246KN07000</b>	263.41	0.82	0.38	13.55	0.00	1559.88	1506.26	53.62	1962.56	0.52	0.12	0.29	4.90	0.00	92.08
<b>246KN15000</b>	263.79	0.82	0.38	13.61	0.00	1565.73	1511.87	53.87	1993.57	0.52	0.13	0.29	4.96	0.00	92.08
<b>246KN17000</b>	263.27	0.81	0.38	13.53	0.00	1557.67	1504.13	53.54	1950.57	0.51	0.12	0.29	4.88	0.00	92.08
<b>246KN1E0M0</b>	264.26	0.82	0.39	13.58	0.00	1570.79	1516.27	54.52	1939.70	0.53	0.12	0.29	4.99	0.00	92.08
<b>246KN37000</b>	262.63	0.81	0.38	13.43	0.00	1547.71	1494.53	53.19	1897.60	0.51	0.14	0.29	4.81	0.00	92.08
<b>246KPG5300</b>	217.93	0.70	0.32	11.73	0.00	1348.65	1301.92	46.73	1889.26	0.48	0.13	0.29	4.58	0.00	92.08
<b>246KPG5F00</b>	207.05	0.80	0.31	12.90	0.00	1440.81	1391.54	49.26	1852.73	0.65	0.13	0.29	4.42	0.00	92.08
<b>246KPG7000</b>	262.86	0.81	0.38	13.47	0.00	1551.19	1497.88	53.31	1916.09	0.51	0.13	0.29	4.83	0.00	92.08
<b>246KPG7300</b>	223.85	0.71	0.33	11.88	0.00	1368.41	1321.09	47.32	1840.26	0.47	0.13	0.29	4.53	0.00	92.08
<b>246KPG8F00</b>	206.59	0.80	0.31	12.84	0.00	1434.30	1385.34	48.96	1778.79	0.65	0.13	0.29	4.29	0.00	92.08
<b>246KPGA000</b>	263.50	0.82	0.38	13.56	0.00	1561.19	1507.50	53.70	1969.58	0.52	0.13	0.29	4.92	0.00	92.08
<b>2470N3R2S0</b>	340.54	1.02	0.49	16.47	0.00	1928.33	1863.23	65.10	1907.45	0.58	0.15	0.29	5.28	0.00	92.08
<b>247HG3H000</b>	320.51	0.96	0.46	15.67	0.00	1811.02	1748.96	62.06	1922.94	0.56	0.16	0.29	5.18	0.00	92.08
<b>247KG3H000</b>	301.12	0.91	0.43	14.91	0.00	1721.75	1662.69	59.06	1906.67	0.54	0.16	0.29	5.05	0.00	92.08

LCIA methodology Score: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
247KN37000	301.39	0.91	0.43	14.95	0.00	1725.97	1666.79	59.18	1929.14	0.55	0.14	0.29	5.07	0.00	92.08
248HZAW800	105.42	0.37	0.16	6.49	0.00	746.39	720.42	25.96	1211.68	0.30	0.17	0.29	2.84	0.00	92.08
248KG3R000	339.51	1.00	0.48	16.38	0.00	1894.22	1829.37	64.85	1906.74	0.58	0.17	0.29	5.26	0.00	92.08
249KGAR000	378.09	1.10	0.54	17.73	0.00	2066.28	1994.88	71.40	1782.33	0.63	0.23	0.29	5.49	0.00	92.08
24C1LAW0H6	108.73	0.40	0.17	6.99	0.00	797.98	770.36	27.62	1486.87	0.32	0.17	0.29	3.31	0.00	92.08
24C1LAW0H9	108.56	0.39	0.17	6.97	0.00	795.39	767.90	27.48	1474.34	0.32	0.14	0.29	3.27	0.00	92.08
24F0N1H0S0	317.21	0.97	0.46	15.76	0.00	1835.49	1773.41	62.07	2053.64	0.57	0.12	0.29	5.34	0.00	92.08
24F2N1H0S0	311.00	0.95	0.45	15.52	0.00	1806.49	1745.37	61.12	2048.88	0.57	0.12	0.29	5.30	0.00	92.08
24F2N3R3P0	292.43	0.91	0.42	14.66	0.00	1730.27	1672.83	57.45	1918.66	0.54	0.14	0.29	4.98	0.00	92.08
24F4N1A0M0	312.82	0.95	0.45	15.55	0.00	1801.85	1739.39	62.46	2020.38	0.59	0.14	0.29	5.41	0.00	92.08
24F4N1H0S0	281.65	0.87	0.41	14.35	0.00	1662.95	1606.33	56.63	2025.83	0.54	0.12	0.29	5.10	0.00	92.08
24F4N1H0SK	289.95	0.92	0.43	14.85	0.00	1755.55	1692.57	62.98	2023.19	0.66	0.12	0.29	5.82	0.00	92.08
24F4N1H2S0	245.47	0.78	0.36	12.89	0.00	1499.37	1448.35	51.02	1953.50	0.51	0.12	0.29	4.81	0.00	92.08
24F5N1AFM0	230.70	0.89	0.35	14.11	0.00	1583.10	1528.51	54.59	1859.65	0.73	0.13	0.29	4.69	0.00	92.08
24F5N1H0S0	271.79	0.85	0.40	13.99	0.00	1624.58	1569.46	55.13	2028.08	0.53	0.12	0.29	5.05	0.00	92.08
24F5N1K2M0	256.02	0.80	0.37	13.18	0.00	1527.53	1474.25	53.28	1864.25	0.53	0.13	0.29	4.87	0.00	92.08
24F5N1LAS9	242.60	0.83	0.36	13.43	0.00	1537.28	1485.10	52.18	1894.11	0.58	0.12	0.29	4.67	0.00	92.08
24F5PGE2M0	255.99	0.80	0.37	13.18	0.00	1527.06	1473.80	53.26	1861.75	0.53	0.13	0.29	4.87	0.00	92.08
24F5PGEFM0	229.90	0.89	0.35	13.98	0.00	1570.53	1516.42	54.11	1792.66	0.72	0.13	0.29	4.58	0.00	92.08
24F7N3HFS0	236.04	0.91	0.35	14.31	0.00	1610.87	1556.54	54.34	1830.03	0.71	0.14	0.29	4.54	0.00	92.08
24F8N3A1S0	268.37	0.83	0.39	13.71	0.00	1591.64	1537.36	54.28	1920.51	0.52	0.14	0.29	4.89	0.00	92.08
24V0N1A00M	271.53	0.84	0.40	13.94	0.00	1611.57	1555.61	55.96	1998.22	0.55	0.13	0.29	5.13	0.00	92.08
24V1N15300	212.43	0.69	0.31	11.54	0.00	1326.33	1280.34	45.99	1907.25	0.47	0.13	0.29	4.57	0.00	92.08
24V1N15F00	201.21	0.79	0.30	12.71	0.00	1417.92	1369.42	48.50	1870.96	0.65	0.13	0.29	4.41	0.00	92.08
24V2N1A00M	259.10	0.81	0.38	13.45	0.00	1553.88	1499.88	54.00	1988.17	0.53	0.13	0.29	5.04	0.00	92.08

Table 6 Summary Results (A1-A3): Hillsboro Plant, per cubic yard

LCIA methodology Score: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CB W m <sup>3</sup>	CW W m <sup>3</sup>	TW m <sup>3</sup>	CH W kg	CNH W kg
<b>240KGAR000</b>	446.27	1.84	0.24	31.37	0.00	3486.01	3141.95	344.06	1808.29	11.50	0.23	0.29	3.64	0.00	92.08
<b>240KGAR0S0</b>	447.21	1.85	0.24	31.47	0.00	3513.73	3170.53	343.20	1847.60	11.49	0.20	0.29	3.55	0.00	92.08
<b>240KGAR0SL</b>	459.69	1.94	0.29	32.26	0.00	3681.74	3326.59	355.15	1795.92	11.72	0.21	0.29	4.91	0.00	92.08
<b>2430B1H0S0</b>	320.26	1.36	0.19	23.35	0.00	2604.22	2360.36	243.86	2003.01	8.05	0.13	0.29	3.74	0.00	92.08
<b>2430N15000</b>	238.85	1.03	0.15	17.99	0.00	1993.42	1812.24	181.18	1952.35	5.90	0.13	0.29	3.65	0.00	92.08
<b>2430N15200</b>	207.41	0.91	0.14	15.88	0.00	1761.82	1605.02	156.80	1896.18	5.07	0.13	0.29	3.58	0.00	92.08
<b>2430N17000</b>	233.74	1.01	0.15	17.59	0.00	1950.66	1773.37	177.29	1895.24	5.78	0.12	0.29	3.55	0.00	92.08
<b>2430N17200</b>	206.76	0.90	0.14	15.78	0.00	1751.66	1595.27	156.40	1842.19	5.06	0.12	0.29	3.48	0.00	92.08
<b>2430P3K000</b>	279.35	1.19	0.17	20.54	0.00	2277.06	2063.98	213.07	1862.31	7.01	0.14	0.29	3.51	0.00	92.08
<b>2430P3K400</b>	241.38	1.03	0.15	17.96	0.00	1994.96	1811.23	183.73	1764.30	6.01	0.14	0.29	3.39	0.00	92.08
<b>2430R1A0V0</b>	221.88	0.97	0.15	16.85	0.00	1874.51	1706.33	168.18	1917.53	5.45	0.14	0.29	3.73	0.00	92.08
<b>2430R1AFV0</b>	173.06	0.87	0.14	14.60	0.00	1603.42	1475.46	127.96	1822.67	4.06	0.14	0.29	3.61	0.00	92.08
<b>2430R1C0V0</b>	221.50	0.97	0.15	16.79	0.00	1868.47	1700.54	167.93	1885.53	5.44	0.13	0.29	3.67	0.00	92.08
<b>2430R1CFV0</b>	172.67	0.87	0.14	14.54	0.00	1597.39	1469.68	127.72	1790.67	4.06	0.13	0.29	3.55	0.00	92.08
<b>2430XG7000</b>	238.04	1.03	0.15	17.86	0.00	1980.79	1800.10	180.69	1885.37	5.89	0.12	0.29	3.54	0.00	92.08
<b>2430XG7300</b>	197.65	0.87	0.14	15.16	0.00	1683.36	1534.01	149.35	1815.00	4.82	0.12	0.29	3.45	0.00	92.08
<b>2430XG7F00</b>	184.67	0.92	0.14	15.41	0.00	1684.50	1547.76	136.73	1781.55	4.38	0.12	0.29	3.41	0.00	92.08
<b>2433N17009</b>	282.69	1.20	0.17	20.81	0.00	2307.02	2091.49	215.53	1920.05	7.09	0.12	0.29	3.59	0.00	92.08
<b>2433N17200</b>	240.10	1.03	0.15	17.97	0.00	1994.02	1811.60	182.43	1857.07	5.96	0.12	0.29	3.51	0.00	92.08
<b>2433N17F00</b>	215.79	1.06	0.16	17.70	0.00	1932.08	1771.57	160.51	1802.53	5.20	0.12	0.29	3.45	0.00	92.08
<b>2435N15000</b>	252.22	1.08	0.16	18.87	0.00	2091.00	1899.37	191.62	1961.21	6.26	0.13	0.29	3.67	0.00	92.08
<b>2435N15200</b>	207.41	0.91	0.14	15.88	0.00	1761.82	1605.02	156.80	1896.18	5.07	0.13	0.29	3.58	0.00	92.08
<b>2435N17000</b>	259.02	1.11	0.16	19.25	0.00	2134.10	1937.04	197.06	1901.32	6.46	0.12	0.29	3.56	0.00	92.08
<b>2435N17200</b>	228.90	0.99	0.15	17.22	0.00	1911.79	1738.07	173.72	1841.80	5.66	0.12	0.29	3.49	0.00	92.08

LCIA methodology Score: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CB W m <sup>3</sup>	CW W m <sup>3</sup>	TW m <sup>3</sup>	CH W kg	CNH W kg
<b>2435N35000</b>	279.63	1.19	0.17	20.58	0.00	2281.51	2068.26	213.26	1886.31	7.01	0.15	0.29	3.56	0.00	92.08
<b>2435X37000</b>	258.56	1.10	0.16	19.18	0.00	2126.77	1929.96	196.80	1862.35	6.45	0.14	0.29	3.51	0.00	92.08
<b>2435XG7000</b>	259.00	1.11	0.16	19.25	0.00	2133.79	1936.74	197.05	1899.82	6.46	0.12	0.29	3.56	0.00	92.08
<b>2435XG7200</b>	224.43	0.97	0.15	16.93	0.00	1878.99	1708.76	170.23	1837.19	5.54	0.12	0.29	3.48	0.00	92.08
<b>2440N15000</b>	252.23	1.08	0.16	18.87	0.00	2091.09	1899.46	191.63	1961.71	6.26	0.13	0.29	3.67	0.00	92.08
<b>2440N15200</b>	225.22	0.98	0.15	17.05	0.00	1891.48	1720.76	170.72	1903.68	5.55	0.13	0.29	3.60	0.00	92.08
<b>2440N17000</b>	269.28	1.15	0.17	19.93	0.00	2208.86	2003.79	205.06	1908.19	6.73	0.12	0.29	3.57	0.00	92.08
<b>2440N17200</b>	255.65	1.09	0.16	18.98	0.00	2106.91	1912.29	194.62	1857.03	6.37	0.12	0.29	3.52	0.00	92.08
<b>2440N17F00</b>	227.92	1.12	0.17	18.56	0.00	2026.09	1856.24	169.85	1795.12	5.52	0.12	0.29	3.44	0.00	92.08
<b>2440N18000</b>	300.55	1.27	0.18	21.96	0.00	2433.84	2204.29	229.55	1897.74	7.57	0.13	0.29	3.56	0.00	92.08
<b>2440N18200</b>	273.19	1.16	0.17	20.11	0.00	2232.34	2023.96	208.38	1841.53	6.85	0.12	0.29	3.49	0.00	92.08
<b>2440N1H2M0</b>	252.89	1.09	0.16	18.85	0.00	2098.52	1905.98	192.54	1902.52	6.28	0.13	0.29	3.72	0.00	92.08
<b>2440N1HFM0</b>	224.44	1.10	0.17	18.30	0.00	2005.50	1838.10	167.40	1838.07	5.41	0.13	0.29	3.65	0.00	92.08
<b>2440N37000</b>	308.91	1.30	0.18	22.50	0.00	2493.91	2257.80	236.12	1893.78	7.80	0.14	0.29	3.56	0.00	92.08
<b>2440N3L2S9</b>	313.26	1.32	0.18	22.70	0.00	2528.21	2288.91	239.30	1813.11	7.92	0.14	0.29	3.46	0.00	92.08
<b>2440N3LCS9</b>	318.90	1.40	0.19	23.71	0.00	2624.63	2382.40	242.22	1817.53	8.01	0.14	0.29	3.47	0.00	92.08
<b>2440N3R0S0</b>	281.11	1.20	0.17	20.73	0.00	2309.85	2096.22	213.63	1937.80	7.02	0.13	0.29	3.63	0.00	92.08
<b>2440N3RC09</b>	295.84	1.37	0.21	22.78	0.00	2533.30	2308.97	224.34	1885.64	7.31	0.12	0.29	4.20	0.00	92.08
<b>2440PGH0M0</b>	302.06	1.28	0.18	22.12	0.00	2458.62	2227.81	230.81	1958.70	7.59	0.14	0.29	3.80	0.00	92.08
<b>2440PGH2M0</b>	250.61	1.08	0.16	18.70	0.00	2081.43	1890.64	190.79	1894.49	6.22	0.13	0.29	3.71	0.00	92.08
<b>2440S30200</b>	295.60	1.25	0.18	21.60	0.00	2396.63	2170.75	225.88	1866.14	7.45	0.14	0.29	3.55	0.00	92.08
<b>2440S32200</b>	295.08	1.25	0.18	21.52	0.00	2388.56	2162.99	225.57	1822.65	7.44	0.14	0.29	3.48	0.00	92.08
<b>2440XG7000</b>	282.50	1.20	0.17	20.78	0.00	2304.08	2088.65	215.42	1904.06	7.09	0.13	0.29	3.57	0.00	92.08
<b>2444N17009</b>	309.17	1.30	0.18	22.54	0.00	2497.86	2261.60	236.26	1914.77	7.80	0.13	0.29	3.59	0.00	92.08
<b>2444V42009</b>	300.24	1.24	0.17	21.29	0.00	2400.86	2139.54	261.32	1957.52	7.74	0.12	0.29	3.30	0.00	92.08
<b>2450N15300</b>	247.40	1.06	0.16	18.49	0.00	2051.98	1863.86	188.12	1898.36	6.14	0.13	0.29	3.60	0.00	92.08

LCIA methodology Score: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CB W m <sup>3</sup>	CW W m <sup>3</sup>	TW m <sup>3</sup>	CH W kg	CNH W kg
<b>2450N15F00</b>	233.48	1.14	0.17	19.03	0.00	2076.28	1902.31	173.97	1859.26	5.65	0.13	0.29	3.56	0.00	92.08
<b>2450N1A0M0</b>	320.13	1.35	0.19	23.33	0.00	2592.30	2347.40	244.90	1983.72	8.07	0.14	0.29	3.85	0.00	92.08
<b>2450N1H3S0</b>	257.19	1.11	0.16	19.14	0.00	2135.37	1940.19	195.17	1910.12	6.38	0.12	0.29	3.62	0.00	92.08
<b>2451N1K0S9</b>	352.93	1.49	0.20	25.43	0.00	2836.98	2567.55	269.43	1949.92	8.94	0.13	0.29	3.65	0.00	92.08
<b>2455N3V0S9</b>	363.72	1.52	0.21	26.06	0.00	2902.64	2624.32	278.32	1886.66	9.25	0.14	0.29	3.56	0.00	92.08
<b>2455N3V2S9</b>	335.82	1.41	0.19	24.18	0.00	2696.74	2440.02	256.72	1819.75	8.51	0.14	0.29	3.48	0.00	92.08
<b>245HN05000</b>	259.97	1.12	0.16	19.39	0.00	2148.84	1951.21	197.63	1979.80	6.47	0.12	0.29	3.69	0.00	92.08
<b>245HN07000</b>	259.44	1.11	0.16	19.31	0.00	2140.65	1943.35	197.30	1936.30	6.46	0.12	0.29	3.61	0.00	92.08
<b>245HN15000</b>	259.68	1.11	0.16	19.35	0.00	2144.35	1946.88	197.47	1955.82	6.46	0.13	0.29	3.66	0.00	92.08
<b>245HN17000</b>	259.02	1.11	0.16	19.25	0.00	2134.07	1937.01	197.06	1901.32	6.46	0.12	0.29	3.56	0.00	92.08
<b>2460N3RCS0</b>	325.02	1.48	0.21	24.70	0.00	2731.91	2486.74	245.18	1838.56	8.10	0.15	0.29	3.53	0.00	92.08
<b>246HCG3F00</b>	231.70	1.13	0.17	18.84	0.00	2055.79	1883.07	172.73	1797.32	5.62	0.12	0.29	3.44	0.00	92.08
<b>246HN15000</b>	301.59	1.28	0.18	22.11	0.00	2450.12	2219.94	230.19	1984.22	7.59	0.13	0.29	3.71	0.00	92.08
<b>246HN15F00</b>	232.32	1.14	0.17	18.93	0.00	2065.52	1892.38	173.13	1849.33	5.62	0.13	0.29	3.54	0.00	92.08
<b>246HN17000</b>	300.94	1.27	0.18	22.01	0.00	2439.87	2210.09	229.78	1929.73	7.58	0.12	0.29	3.61	0.00	92.08
<b>246HN1F0M0</b>	301.89	1.28	0.18	22.06	0.00	2452.28	2221.52	230.77	1907.91	7.60	0.12	0.29	3.71	0.00	92.08
<b>246HPG8F00</b>	231.30	1.13	0.17	18.77	0.00	2049.48	1876.97	172.51	1763.85	5.61	0.13	0.29	3.40	0.00	92.08
<b>246HZ340RM</b>	303.65	1.29	0.19	22.05	0.00	2473.04	2240.18	232.86	1786.70	7.64	0.09	0.29	3.83	0.00	92.08
<b>246HZAW800</b>	66.75	0.33	0.07	6.04	0.00	678.72	630.35	48.38	1260.28	1.42	0.18	0.29	2.54	0.00	92.08
<b>246KCG3300</b>	237.81	1.02	0.15	17.80	0.00	1976.63	1795.94	180.69	1842.07	5.90	0.12	0.29	3.49	0.00	92.08
<b>246KCG3F00</b>	218.34	1.07	0.16	17.86	0.00	1949.74	1787.22	162.52	1794.80	5.27	0.12	0.29	3.43	0.00	92.08
<b>246KN05000</b>	280.80	1.20	0.17	20.76	0.00	2299.77	2085.85	213.92	1983.27	7.03	0.13	0.29	3.70	0.00	92.08
<b>246KN15000</b>	280.65	1.20	0.17	20.73	0.00	2297.42	2083.59	213.84	1970.77	7.02	0.13	0.29	3.68	0.00	92.08
<b>246KN37000</b>	279.50	1.19	0.17	20.56	0.00	2279.38	2066.23	213.15	1874.80	7.01	0.14	0.29	3.53	0.00	92.08
<b>246KPG5300</b>	231.11	1.00	0.15	17.40	0.00	1931.22	1755.79	175.43	1870.72	5.71	0.13	0.29	3.55	0.00	92.08
<b>246KPG5F00</b>	218.41	1.07	0.16	17.86	0.00	1950.18	1787.57	162.61	1836.26	5.26	0.13	0.29	3.52	0.00	92.08



LCIA methodology Score: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CB W m <sup>3</sup>	CW W m <sup>3</sup>	TW m <sup>3</sup>	CH W kg	CNH W kg
<b>246KPG7000</b>	279.72	1.19	0.17	20.59	0.00	2282.86	2069.58	213.28	1893.29	7.01	0.13	0.29	3.56	0.00	92.08
<b>246KPG7300</b>	237.42	1.02	0.15	17.75	0.00	1970.49	1790.00	180.48	1809.60	5.89	0.13	0.29	3.45	0.00	92.08
<b>246KPG8F00</b>	217.95	1.07	0.16	17.80	0.00	1943.66	1781.35	162.31	1762.32	5.26	0.13	0.29	3.39	0.00	92.08
<b>246KPGA000</b>	280.36	1.19	0.17	20.69	0.00	2292.88	2079.21	213.67	1946.78	7.02	0.13	0.29	3.64	0.00	92.08
<b>247HG3H000</b>	342.10	1.43	0.20	24.66	0.00	2733.82	2471.72	262.11	1894.70	8.69	0.16	0.29	3.58	0.00	92.08
<b>247KG3H000</b>	321.13	1.35	0.19	23.28	0.00	2580.84	2335.10	245.74	1880.24	8.13	0.16	0.29	3.56	0.00	92.08
<b>2480N3R2S0</b>	388.06	1.63	0.23	27.68	0.00	3104.92	2807.76	297.16	1913.04	9.87	0.14	0.29	3.83	0.00	92.08
<b>248HZAW800</b>	110.07	0.50	0.08	8.80	0.00	984.59	902.14	82.45	1202.93	2.61	0.17	0.29	2.41	0.00	92.08
<b>248KG3R000</b>	362.67	1.51	0.20	25.99	0.00	2880.73	2602.48	278.25	1876.68	9.25	0.17	0.29	3.56	0.00	92.08
<b>249KGAR000</b>	404.41	1.67	0.22	28.58	0.00	3180.20	2868.67	311.52	1748.63	10.39	0.23	0.29	3.59	0.00	92.08
<b>24C1LAW0H9</b>	113.21	0.52	0.09	9.28	0.00	1033.58	949.61	83.97	1465.60	2.62	0.14	0.29	2.83	0.00	92.08
<b>24F0N1H2S0</b>	297.69	1.27	0.18	21.83	0.00	2435.89	2209.38	226.51	1955.10	7.46	0.12	0.29	3.68	0.00	92.08
<b>24F4N0A3M0</b>	266.25	1.14	0.17	19.71	0.00	2195.26	1992.15	203.12	1884.09	6.64	0.13	0.29	3.73	0.00	92.08
<b>24F4N1A0M0</b>	333.57	1.41	0.20	24.21	0.00	2690.78	2435.38	255.40	1993.10	8.43	0.14	0.29	3.87	0.00	92.08
<b>24F4N1H0S0</b>	300.01	1.28	0.18	22.04	0.00	2452.22	2223.89	228.33	2011.95	7.52	0.12	0.29	3.74	0.00	92.08
<b>24F4N1H0SK</b>	308.36	1.33	0.21	22.58	0.00	2549.60	2313.57	236.03	1998.61	7.69	0.12	0.29	4.43	0.00	92.08
<b>24F4N1H2S0</b>	260.76	1.13	0.17	19.39	0.00	2167.35	1969.72	197.63	1932.52	6.47	0.12	0.29	3.64	0.00	92.08
<b>24F5N1K2M0</b>	272.24	1.16	0.17	20.05	0.00	2233.45	2025.60	207.85	1842.18	6.81	0.13	0.29	3.64	0.00	92.08
<b>24F5N1LAS9</b>	257.32	1.16	0.17	19.71	0.00	2182.21	1988.25	193.96	1873.78	6.35	0.12	0.29	3.54	0.00	92.08
<b>24F5PGE2M0</b>	272.21	1.16	0.17	20.05	0.00	2232.98	2025.15	207.83	1839.68	6.81	0.13	0.29	3.64	0.00	92.08
<b>24F5PGEFM0</b>	242.94	1.18	0.18	19.60	0.00	2147.67	1966.00	181.67	1774.27	5.91	0.13	0.29	3.56	0.00	92.08
<b>24F7N3HFS0</b>	249.54	1.22	0.18	20.12	0.00	2207.00	2021.12	185.88	1811.09	6.06	0.14	0.29	3.49	0.00	92.08
<b>24F8N3A1S0</b>	285.60	1.22	0.17	20.98	0.00	2338.24	2120.86	217.38	1897.28	7.15	0.14	0.29	3.59	0.00	92.08
<b>24T5N1LASJ</b>	388.27	1.70	0.24	28.39	0.00	3171.94	2875.40	296.54	1894.24	9.81	0.13	0.29	4.06	0.00	92.08
<b>24V0N1A00M</b>	288.93	1.23	0.18	21.28	0.00	2364.95	2144.47	220.48	1974.80	7.24	0.13	0.29	3.82	0.00	92.08
<b>24V1N15300</b>	225.14	0.98	0.15	17.03	0.00	1889.93	1719.22	170.72	1889.24	5.55	0.13	0.29	3.58	0.00	92.08

LCIA methodology Score: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CB W m <sup>3</sup>	CW W m <sup>3</sup>	TW m <sup>3</sup>	CH W kg	CNH W kg
<b>24V1N15F00</b>	212.07	1.05	0.16	17.47	0.00	1906.97	1749.38	157.59	1855.08	5.09	0.13	0.29	3.54	0.00	92.08
<b>24V2N1A00M</b>	275.49	1.18	0.17	20.39	0.00	2266.59	2056.60	209.99	1965.92	6.88	0.13	0.29	3.80	0.00	92.08

Table 7 Summary Results (A1-A3): Linnton Plant, per cubic yard

LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
<b>240KGAR0S0</b>	496.10	1.36	0.62	25.42	0.00	3124.85	2974.27	150.58	1836.43	3.78	0.21	0.29	7.27	0.00	92.08
<b>2412GARJ00</b>	213.76	0.91	0.29	15.28	0.00	1732.13	1658.51	73.62	1526.61	1.87	0.18	0.29	4.01	0.00	92.08
<b>2430B1H0S0</b>	352.47	1.01	0.45	19.06	0.00	2315.43	2206.58	108.84	2010.48	2.68	0.13	0.29	6.10	0.00	92.08
<b>2430B1H0SK</b>	361.02	1.07	0.48	19.64	0.00	2431.51	2314.67	116.84	2015.20	2.84	0.12	0.29	7.04	0.00	92.08
<b>2430N15000</b>	262.47	0.78	0.34	14.89	0.00	1790.38	1706.72	83.66	1956.97	2.02	0.13	0.29	5.32	0.00	92.08
<b>2430N15200</b>	244.86	0.74	0.32	14.02	0.00	1687.43	1608.75	78.68	1899.42	1.89	0.13	0.29	5.12	0.00	92.08
<b>2430N17000</b>	284.85	0.83	0.36	15.84	0.00	1908.02	1818.29	89.73	1903.34	2.19	0.13	0.29	5.41	0.00	92.08
<b>2430N17200</b>	251.49	0.75	0.33	14.25	0.00	1717.06	1636.75	80.30	1842.08	1.94	0.13	0.29	5.08	0.00	92.08
<b>2430P3H000</b>	307.83	0.88	0.39	16.87	0.00	2035.11	1938.90	96.21	1899.72	2.36	0.15	0.29	5.59	0.00	92.08
<b>2430P3K000</b>	307.30	0.88	0.39	16.79	0.00	2026.79	1930.91	95.88	1855.23	2.35	0.15	0.29	5.51	0.00	92.08
<b>2430P3K400</b>	275.21	0.80	0.35	15.23	0.00	1840.47	1753.63	86.85	1762.64	2.12	0.15	0.29	5.16	0.00	92.08
<b>2430R1A0V0</b>	258.18	0.77	0.34	14.68	0.00	1770.75	1687.79	82.96	1931.21	2.00	0.14	0.29	5.34	0.00	92.08
<b>2430R1AFV0</b>	199.44	0.74	0.27	13.21	0.00	1547.67	1478.95	68.72	1833.72	1.66	0.14	0.29	4.70	0.00	92.08
<b>2430R1C0V0</b>	257.91	0.77	0.34	14.64	0.00	1766.63	1683.84	82.79	1909.21	2.00	0.13	0.29	5.31	0.00	92.08
<b>2430R1CFV0</b>	199.17	0.74	0.27	13.17	0.00	1543.54	1474.99	68.55	1811.71	1.66	0.13	0.29	4.66	0.00	92.08
<b>2430XG7000</b>	261.48	0.77	0.34	14.74	0.00	1774.90	1691.85	83.05	1874.98	2.01	0.13	0.29	5.19	0.00	92.08

LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg Neq.	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11eq.	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
<b>2430XG7300</b>	231.58	0.70	0.30	13.31	0.00	1603.19	1528.53	74.66	1807.05	1.79	0.13	0.29	4.88	0.00	92.08
<b>2430XG7F00</b>	201.47	0.74	0.27	13.24	0.00	1546.99	1478.48	68.51	1775.48	1.66	0.13	0.29	4.53	0.00	92.08
<b>2433N17009</b>	311.25	0.89	0.40	17.08	0.00	2058.89	1961.61	97.27	1939.74	2.38	0.12	0.29	5.68	0.00	92.08
<b>2433N17200</b>	266.64	0.79	0.34	14.98	0.00	1805.65	1720.96	84.69	1878.90	2.05	0.12	0.29	5.25	0.00	92.08
<b>2433N17F00</b>	235.79	0.85	0.31	15.11	0.00	1765.35	1686.53	78.82	1806.25	1.94	0.13	0.29	4.84	0.00	92.08
<b>2435N15000</b>	285.77	0.84	0.37	15.98	0.00	1922.41	1832.13	90.28	1979.82	2.20	0.13	0.29	5.54	0.00	92.08
<b>2435N15200</b>	272.09	0.80	0.35	15.29	0.00	1841.40	1754.98	86.43	1922.70	2.10	0.13	0.29	5.37	0.00	92.08
<b>2435N17000</b>	284.85	0.83	0.36	15.84	0.00	1908.02	1818.29	89.73	1903.34	2.19	0.13	0.29	5.41	0.00	92.08
<b>2435N17200</b>	251.49	0.75	0.33	14.25	0.00	1717.09	1636.79	80.30	1842.08	1.94	0.13	0.29	5.08	0.00	92.08
<b>2435N35000</b>	307.74	0.88	0.39	16.86	0.00	2033.68	1937.52	96.16	1892.22	2.36	0.15	0.29	5.58	0.00	92.08
<b>2435X37000</b>	307.31	0.88	0.39	16.79	0.00	2026.88	1931.00	95.88	1856.22	2.35	0.14	0.29	5.52	0.00	92.08
<b>2435X37200</b>	275.90	0.80	0.35	15.35	0.00	1851.68	1764.54	87.14	1835.48	2.12	0.14	0.29	5.26	0.00	92.08
<b>2435XG7000</b>	284.84	0.83	0.36	15.83	0.00	1907.92	1818.19	89.72	1902.84	2.19	0.13	0.29	5.41	0.00	92.08
<b>2435XG7200</b>	251.64	0.75	0.33	14.27	0.00	1719.34	1638.95	80.38	1854.08	1.94	0.13	0.29	5.10	0.00	92.08
<b>2440N15000</b>	308.69	0.89	0.39	17.00	0.00	2048.60	1951.90	96.69	1971.68	2.37	0.13	0.29	5.71	0.00	92.08
<b>2440N17000</b>	313.44	0.90	0.40	17.15	0.00	2068.50	1970.69	97.82	1918.64	2.40	0.13	0.29	5.66	0.00	92.08
<b>2440N17200</b>	281.25	0.82	0.36	15.63	0.00	1885.79	1796.98	88.81	1867.29	2.16	0.13	0.29	5.36	0.00	92.08
<b>2440N17500</b>	275.80	0.80	0.35	15.30	0.00	1849.21	1761.91	87.30	1791.28	2.13	0.13	0.29	5.23	0.00	92.08
<b>2440N17F00</b>	249.27	0.89	0.33	15.82	0.00	1848.69	1765.88	82.81	1808.44	2.05	0.13	0.29	4.94	0.00	92.08
<b>2440N18000</b>	330.91	0.94	0.42	17.92	0.00	2163.72	2061.05	102.66	1905.04	2.53	0.13	0.29	5.77	0.00	92.08
<b>2440N18F00</b>	263.49	0.93	0.35	16.53	0.00	1933.73	1846.82	86.91	1777.51	2.16	0.13	0.29	5.00	0.00	92.08
<b>2440N1H2M0</b>	277.90	0.82	0.36	15.55	0.00	1880.46	1791.71	88.75	1902.63	2.15	0.14	0.29	5.50	0.00	92.08
<b>2440N1HFM0</b>	245.21	0.88	0.33	15.61	0.00	1831.24	1748.86	82.38	1842.73	2.03	0.14	0.29	5.09	0.00	92.08
<b>2440N37000</b>	340.26	0.96	0.43	18.35	0.00	2216.07	2110.75	105.32	1908.43	2.60	0.14	0.29	5.85	0.00	92.08
<b>2440N3L2S9</b>	344.78	0.97	0.43	18.44	0.00	2240.79	2134.55	106.24	1802.43	2.63	0.14	0.29	5.74	0.00	92.08
<b>2440N3LCS9</b>	350.41	1.05	0.45	19.46	0.00	2337.20	2228.04	109.16	1806.85	2.72	0.14	0.29	5.75	0.00	92.08

LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg Neq.	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11eq.	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
<b>2440N3R0S0</b>	346.44	0.99	0.44	18.70	0.00	2268.03	2161.00	107.02	1950.71	2.64	0.13	0.29	5.96	0.00	92.08
<b>2440N3RC09</b>	340.20	1.10	0.45	19.70	0.00	2366.05	2254.81	111.23	1810.70	2.76	0.14	0.29	6.22	0.00	92.08
<b>2440PGH0M0</b>	332.30	0.95	0.42	18.08	0.00	2187.86	2083.78	104.09	1960.04	2.55	0.14	0.29	6.00	0.00	92.08
<b>2440PGH2M0</b>	287.64	0.84	0.37	15.98	0.00	1933.78	1842.27	91.51	1890.75	2.22	0.14	0.29	5.57	0.00	92.08
<b>2440PGHFM0</b>	253.55	0.91	0.34	16.11	0.00	1888.75	1803.75	85.00	1829.05	2.10	0.14	0.29	5.13	0.00	92.08
<b>2440S32000</b>	374.18	1.04	0.47	19.85	0.00	2400.54	2285.80	114.74	1877.89	2.85	0.14	0.29	6.07	0.00	92.08
<b>2440S32200</b>	324.66	0.92	0.41	17.52	0.00	2119.71	2018.89	100.82	1808.84	2.48	0.14	0.29	5.61	0.00	92.08
<b>2440XG7000</b>	308.04	0.89	0.39	16.90	0.00	2038.38	1942.09	96.30	1917.19	2.36	0.13	0.29	5.62	0.00	92.08
<b>2444N17009</b>	340.54	0.96	0.43	18.39	0.00	2220.50	2115.02	105.48	1931.92	2.60	0.13	0.29	5.89	0.00	92.08
<b>2444V42009</b>	324.00	0.89	0.41	16.84	0.00	2084.62	1955.16	129.46	1973.14	2.52	0.12	0.29	5.53	0.00	92.08
<b>2445N1F00M</b>	351.29	0.99	0.45	18.87	0.00	2287.05	2177.81	109.24	1903.70	2.69	0.13	0.29	6.06	0.00	92.08
<b>2450N15F00</b>	277.40	0.98	0.37	17.36	0.00	2028.53	1937.21	91.32	1868.00	2.28	0.13	0.29	5.25	0.00	92.08
<b>2450N1A0M0</b>	357.29	1.01	0.45	19.26	0.00	2331.39	2220.09	111.29	1993.47	2.74	0.14	0.29	6.25	0.00	92.08
<b>2450N1A3M0</b>	299.21	0.88	0.39	16.56	0.00	2012.57	1916.70	95.88	1906.19	2.33	0.13	0.29	5.84	0.00	92.08
<b>2450N1H3S0</b>	282.81	0.84	0.36	15.79	0.00	1914.67	1825.31	89.37	1922.86	2.17	0.12	0.29	5.46	0.00	92.08
<b>2450N3R0S0</b>	354.14	1.01	0.45	19.05	0.00	2316.85	2207.77	109.08	1944.90	2.69	0.14	0.29	6.01	0.00	92.08
<b>2450N3R2S0</b>	338.63	0.97	0.43	18.22	0.00	2222.70	2118.13	104.57	1842.31	2.58	0.15	0.29	5.76	0.00	92.08
<b>2450N3RAS0</b>	345.94	1.07	0.44	19.54	0.00	2347.39	2239.02	108.38	1869.83	2.70	0.15	0.29	5.81	0.00	92.08
<b>2450N3V2S9</b>	369.66	1.04	0.46	19.58	0.00	2384.55	2271.34	113.21	1804.86	2.81	0.14	0.29	5.95	0.00	92.08
<b>2450S32200</b>	386.28	1.07	0.48	20.36	0.00	2465.60	2347.36	118.24	1841.55	2.94	0.14	0.29	6.14	0.00	92.08
<b>2450V42009</b>	370.70	1.00	0.46	18.98	0.00	2345.43	2202.79	142.63	1987.03	2.86	0.13	0.29	5.91	0.00	92.08
<b>2451N1K0S9</b>	388.78	1.09	0.49	20.65	0.00	2513.41	2394.58	118.83	1963.83	2.95	0.13	0.29	6.31	0.00	92.08
<b>2455N3V0S9</b>	400.48	1.11	0.50	21.05	0.00	2560.43	2438.55	121.88	1870.16	3.04	0.14	0.29	6.26	0.00	92.08
<b>2455N3V2S9</b>	369.66	1.04	0.46	19.58	0.00	2384.55	2271.34	113.21	1804.86	2.81	0.14	0.29	5.95	0.00	92.08
<b>245HN00000</b>	287.01	0.85	0.37	16.08	0.00	1939.73	1848.37	91.37	1997.88	2.22	0.12	0.29	5.68	0.00	92.08
<b>245HN05000</b>	285.88	0.84	0.37	15.99	0.00	1924.18	1833.83	90.34	1989.31	2.20	0.12	0.29	5.56	0.00	92.08

LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg Neq.	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11eq.	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
<b>245HN15000</b>	285.52	0.83	0.37	15.94	0.00	1918.45	1828.32	90.14	1958.83	2.19	0.13	0.29	5.51	0.00	92.08
<b>245HN17000</b>	284.85	0.83	0.36	15.84	0.00	1908.02	1818.29	89.73	1903.34	2.19	0.13	0.29	5.41	0.00	92.08
<b>245HN1H00M</b>	286.53	0.84	0.37	16.00	0.00	1932.09	1840.99	91.10	1956.91	2.21	0.14	0.29	5.62	0.00	92.08
<b>245HZAWL00</b>	96.89	0.68	0.16	10.42	0.00	1121.73	1080.09	41.63	1294.92	1.05	0.18	0.29	2.77	0.00	92.08
<b>245KN17000</b>	262.61	0.78	0.34	14.83	0.00	1790.53	1706.49	84.05	1890.50	2.03	0.13	0.29	5.32	0.00	92.08
<b>2460GARCS0</b>	471.86	1.52	0.61	26.56	0.00	3209.58	3059.51	150.07	1665.23	3.81	0.21	0.29	7.10	0.00	92.08
<b>2460N15F00</b>	295.81	1.04	0.39	18.36	0.00	2145.14	2048.32	96.82	1870.84	2.42	0.13	0.29	5.39	0.00	92.08
<b>2460N1H0S0</b>	389.16	1.09	0.49	20.74	0.00	2516.61	2397.31	119.30	2031.80	2.96	0.13	0.29	6.42	0.00	92.08
<b>2460N1H0SK</b>	395.47	1.14	0.51	21.16	0.00	2602.09	2476.85	125.24	2026.84	3.07	0.13	0.29	7.11	0.00	92.08
<b>2460N3R2PV</b>	371.26	1.05	0.47	19.73	0.00	2415.28	2301.63	113.65	1857.38	2.82	0.15	0.29	6.04	0.00	92.08
<b>2460N3RCS0</b>	356.69	1.14	0.46	20.46	0.00	2446.89	2334.68	112.21	1840.38	2.82	0.15	0.29	5.83	0.00	92.08
<b>246HCG3F00</b>	253.28	0.90	0.34	16.01	0.00	1872.10	1788.18	83.92	1797.87	2.08	0.12	0.29	4.96	0.00	92.08
<b>246HN07000</b>	331.27	0.94	0.42	17.98	0.00	2169.34	2066.47	102.87	1935.03	2.53	0.12	0.29	5.82	0.00	92.08
<b>246HN15000</b>	331.97	0.95	0.42	18.08	0.00	2180.28	2076.97	103.31	1993.02	2.54	0.13	0.29	5.92	0.00	92.08
<b>246HN15200</b>	286.69	0.84	0.37	15.94	0.00	1921.39	1830.87	90.52	1911.57	2.21	0.13	0.29	5.47	0.00	92.08
<b>246HN15F00</b>	253.95	0.91	0.34	16.11	0.00	1882.55	1798.20	84.35	1853.87	2.09	0.13	0.29	5.05	0.00	92.08
<b>246HN17000</b>	331.31	0.94	0.42	17.98	0.00	2169.96	2067.06	102.90	1938.03	2.53	0.13	0.29	5.83	0.00	92.08
<b>246HN1F0M0</b>	332.25	0.95	0.42	18.02	0.00	2182.19	2078.31	103.88	1915.22	2.55	0.13	0.29	5.93	0.00	92.08
<b>246HPG7300</b>	270.29	0.79	0.35	15.06	0.00	1817.99	1732.42	85.57	1804.13	2.08	0.13	0.29	5.18	0.00	92.08
<b>246HPG8F00</b>	252.92	0.90	0.34	15.96	0.00	1866.43	1782.71	83.73	1767.89	2.08	0.13	0.29	4.91	0.00	92.08
<b>246HZAW800</b>	97.22	0.34	0.14	6.52	0.00	788.19	753.41	34.77	1268.86	0.78	0.18	0.29	2.93	0.00	92.08
<b>246KCG3300</b>	261.24	0.77	0.34	14.68	0.00	1770.52	1687.47	83.05	1830.69	2.01	0.12	0.29	5.15	0.00	92.08
<b>246KCG3F00</b>	238.60	0.86	0.32	15.22	0.00	1779.60	1700.05	79.55	1796.30	1.96	0.12	0.29	4.84	0.00	92.08
<b>246KN05000</b>	308.90	0.89	0.39	17.03	0.00	2051.80	1954.99	96.81	1988.67	2.37	0.13	0.29	5.73	0.00	92.08
<b>246KN15000</b>	308.81	0.89	0.39	17.02	0.00	2050.50	1953.73	96.77	1981.68	2.37	0.13	0.29	5.72	0.00	92.08
<b>246KN17000</b>	308.15	0.89	0.39	16.92	0.00	2040.14	1943.78	96.36	1926.19	2.36	0.13	0.29	5.63	0.00	92.08

LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
<b>246KN1E0M0</b>	309.12	0.89	0.40	16.97	0.00	2053.03	1955.70	97.33	1914.31	2.38	0.13	0.29	5.73	0.00	92.08
<b>246KN1H0S0</b>	309.74	0.90	0.40	17.10	0.00	2069.13	1972.20	96.92	2001.18	2.37	0.12	0.29	5.76	0.00	92.08
<b>246KN37000</b>	307.60	0.88	0.39	16.84	0.00	2031.55	1935.50	96.05	1880.71	2.35	0.14	0.29	5.56	0.00	92.08
<b>246KPG5300</b>	253.90	0.76	0.33	14.40	0.00	1734.74	1653.53	81.20	1869.38	1.96	0.14	0.29	5.15	0.00	92.08
<b>246KPG5F00</b>	238.86	0.86	0.32	15.25	0.00	1783.11	1703.35	79.76	1853.76	1.96	0.13	0.29	4.94	0.00	92.08
<b>246KPG7000</b>	307.82	0.88	0.39	16.87	0.00	2034.90	1938.73	96.17	1898.70	2.36	0.13	0.29	5.59	0.00	92.08
<b>246KPG7300</b>	261.01	0.77	0.34	14.64	0.00	1766.93	1684.00	82.93	1811.71	2.01	0.13	0.29	5.11	0.00	92.08
<b>246KPG8F00</b>	238.32	0.85	0.32	15.18	0.00	1775.23	1695.83	79.40	1772.82	1.96	0.13	0.29	4.81	0.00	92.08
<b>246KPGA000</b>	308.41	0.89	0.39	16.96	0.00	2044.09	1947.56	96.53	1947.69	2.36	0.14	0.29	5.67	0.00	92.08
<b>2470N3R2S0</b>	400.48	1.12	0.50	21.07	0.00	2573.48	2451.46	122.01	1874.54	3.04	0.15	0.29	6.29	0.00	92.08
<b>247HG3H000</b>	376.94	1.05	0.47	20.01	0.00	2418.90	2303.26	115.64	1903.29	2.87	0.16	0.29	6.13	0.00	92.08
<b>247KG3H000</b>	353.77	0.99	0.45	18.94	0.00	2288.94	2179.85	109.09	1891.44	2.70	0.16	0.29	5.93	0.00	92.08
<b>247KG3K000</b>	353.51	0.99	0.44	18.90	0.00	2284.84	2175.92	108.91	1869.44	2.69	0.15	0.29	5.90	0.00	92.08
<b>247KN37000</b>	353.93	0.99	0.45	18.97	0.00	2291.37	2182.23	109.14	1904.41	2.70	0.14	0.29	5.95	0.00	92.08
<b>2480N6R2S0</b>	441.79	1.24	0.56	23.04	0.00	2840.73	2704.22	136.51	1867.38	3.39	0.15	0.29	7.06	0.00	92.08
<b>248KG3R000</b>	399.72	1.10	0.50	21.01	0.00	2542.88	2420.90	121.98	1883.17	3.04	0.17	0.29	6.28	0.00	92.08
<b>249KGAR000</b>	447.99	1.23	0.56	23.10	0.00	2824.90	2687.24	137.66	1740.17	3.44	0.23	0.29	6.83	0.00	92.08
<b>24C1LAW0H9</b>	124.18	0.42	0.17	8.01	0.00	962.72	919.90	42.81	1484.92	0.97	0.14	0.29	3.48	0.00	92.08
<b>24F0N1H0S0</b>	379.48	1.07	0.48	20.30	0.00	2465.22	2348.71	116.51	2025.25	2.88	0.13	0.29	6.34	0.00	92.08
<b>24F2N1AFM0</b>	291.38	1.03	0.39	18.13	0.00	2126.85	2030.46	96.39	1856.65	2.40	0.14	0.29	5.48	0.00	92.08
<b>24F2N3R3P0</b>	342.05	0.98	0.43	18.43	0.00	2254.34	2148.76	105.58	1875.74	2.60	0.14	0.29	5.84	0.00	92.08
<b>24F2N3RCP0</b>	337.03	1.09	0.43	19.59	0.00	2339.22	2232.83	106.40	1863.97	2.66	0.14	0.29	5.66	0.00	92.08
<b>24F2N6H1S0</b>	424.26	1.16	0.53	21.60	0.00	2689.65	2536.70	152.96	1950.75	3.27	0.15	0.29	6.53	0.00	92.08
<b>24F4N1H0S0</b>	339.74	0.97	0.43	18.47	0.00	2237.24	2131.89	105.34	2005.52	2.59	0.12	0.29	6.00	0.00	92.08
<b>24F4N1H0SK</b>	350.79	1.03	0.46	19.10	0.00	2346.40	2233.73	112.66	2003.33	2.74	0.12	0.29	6.73	0.00	92.08
<b>24F4N1H2S0</b>	297.57	0.87	0.38	16.48	0.00	1997.36	1903.89	93.47	1940.60	2.28	0.12	0.29	5.59	0.00	92.08

LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
<b>24F5N1A2M0</b>	307.70	0.89	0.40	16.93	0.00	2049.62	1952.29	97.33	1920.91	2.38	0.14	0.29	5.78	0.00	92.08
<b>24F5N1H0S0</b>	317.78	0.92	0.41	17.49	0.00	2115.94	2016.71	99.23	2017.01	2.43	0.12	0.29	5.84	0.00	92.08
<b>24F5N1LAS9</b>	302.53	0.95	0.39	17.40	0.00	2083.30	1987.33	95.97	1891.52	2.37	0.12	0.29	5.51	0.00	92.08
<b>24F5PGE2M0</b>	299.41	0.87	0.38	16.45	0.00	1994.07	1899.39	94.68	1844.74	2.31	0.13	0.29	5.59	0.00	92.08
<b>24F5PGEFM0</b>	265.65	0.94	0.35	16.65	0.00	1954.90	1866.56	88.34	1782.56	2.19	0.13	0.29	5.16	0.00	92.08
<b>24F8N3A1S0</b>	319.01	0.92	0.41	17.39	0.00	2110.62	2011.34	99.28	1893.09	2.44	0.14	0.29	5.68	0.00	92.08
<b>24NAZYW701</b>	504.39	1.26	0.60	24.16	0.00	2958.75	2812.51	146.24	682.98	3.78	0.48	0.29	4.97	0.00	92.08
<b>24T5N1LASJ</b>	426.70	1.27	0.55	23.19	0.00	2817.80	2684.06	133.74	1893.18	3.34	0.13	0.29	6.91	0.00	92.08
<b>24V0N1A00M</b>	317.84	0.92	0.41	17.46	0.00	2110.26	2010.18	100.07	1985.16	2.45	0.13	0.29	5.92	0.00	92.08
<b>24V0N1A0MZ</b>	317.84	0.92	0.41	17.46	0.00	2110.26	2010.18	100.07	1985.16	2.45	0.13	0.29	5.92	0.00	92.08
<b>24V1N15300</b>	262.00	0.78	0.34	14.79	0.00	1782.38	1698.82	83.55	1891.71	2.02	0.13	0.29	5.25	0.00	92.08
<b>24V1N15F00</b>	242.51	0.87	0.32	15.51	0.00	1811.43	1730.47	80.96	1852.40	2.00	0.13	0.29	4.96	0.00	92.08
<b>24V2N1A00M</b>	303.00	0.88	0.39	16.78	0.00	2026.47	1930.63	95.84	1977.30	2.34	0.13	0.29	5.78	0.00	92.08
<b>240KGAR000</b>	495.13	1.34	0.62	25.32	0.00	3096.67	2945.30	151.37	1796.09	3.79	0.23	0.29	7.33	0.00	92.08

Table 8 Summary Results (A1-A3): Sundial Plant, per cubic yard

LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
<b>240KGAR000</b>	495.44	1.35	0.62	25.40	0.00	3101.36	2950.13	151.23	1796.34	3.79	0.23	0.23	7.51	0.00	92.08
<b>240KGAR0S0</b>	496.40	1.36	0.62	25.50	0.00	3129.36	2978.97	150.39	1836.66	3.77	0.21	0.23	7.43	0.00	92.08

LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
240KGAR0SL	507.31	1.44	0.66	26.32	0.00	3279.47	3119.22	160.25	1916.14	3.96	0.16	0.23	8.60	0.00	92.08
2430B1H0S0	352.77	1.01	0.45	19.14	0.00	2319.91	2211.25	108.66	2010.70	2.68	0.13	0.23	6.18	0.00	92.08
2430N15000	262.77	0.78	0.34	14.97	0.00	1794.86	1711.39	83.47	1957.20	2.02	0.13	0.23	5.40	0.00	92.08
2430N15200	245.15	0.74	0.32	14.11	0.00	1691.92	1613.42	78.50	1899.65	1.89	0.13	0.23	5.20	0.00	92.08
2430N17000	285.15	0.83	0.36	15.92	0.00	1912.52	1822.98	89.55	1903.57	2.18	0.13	0.23	5.49	0.00	92.08
2430N17200	251.79	0.75	0.32	14.33	0.00	1721.59	1641.47	80.12	1842.31	1.94	0.13	0.23	5.16	0.00	92.08
2430P3K000	307.60	0.88	0.39	16.87	0.00	2031.30	1935.60	95.70	1855.46	2.35	0.15	0.23	5.61	0.00	92.08
2430P3K400	275.51	0.80	0.35	15.31	0.00	1844.99	1758.32	86.67	1762.87	2.11	0.15	0.23	5.26	0.00	92.08
2430R1A0V0	258.48	0.77	0.34	14.77	0.00	1775.24	1692.47	82.77	1931.44	2.00	0.14	0.23	5.43	0.00	92.08
2430R1AFV0	199.73	0.74	0.27	13.29	0.00	1552.16	1483.63	68.54	1833.95	1.66	0.14	0.23	4.78	0.00	92.08
2430R1C0V0	258.21	0.77	0.33	14.73	0.00	1771.13	1688.53	82.60	1909.44	1.99	0.13	0.23	5.38	0.00	92.08
2430R1CFV0	199.47	0.74	0.27	13.25	0.00	1548.04	1479.68	68.37	1811.94	1.65	0.13	0.23	4.74	0.00	92.08
2430XG7000	262.00	0.78	0.34	14.86	0.00	1782.84	1699.83	83.01	1893.21	2.01	0.13	0.23	5.29	0.00	92.08
2430XG7300	231.88	0.70	0.30	13.39	0.00	1607.70	1533.22	74.48	1807.28	1.79	0.13	0.23	4.95	0.00	92.08
2430XG7F00	201.76	0.74	0.27	13.32	0.00	1551.50	1483.17	68.33	1775.71	1.66	0.13	0.23	4.61	0.00	92.08
2433N17009	311.54	0.90	0.40	17.16	0.00	2063.38	1966.29	97.09	1939.97	2.38	0.12	0.23	5.75	0.00	92.08
2433N17200	266.93	0.79	0.34	15.07	0.00	1810.15	1725.64	84.51	1879.13	2.05	0.12	0.23	5.33	0.00	92.08
2435N15000	286.06	0.84	0.37	16.06	0.00	1926.89	1836.80	90.10	1980.04	2.19	0.13	0.23	5.62	0.00	92.08
2435N15200	272.38	0.80	0.35	15.37	0.00	1845.89	1759.65	86.24	1922.93	2.09	0.13	0.23	5.45	0.00	92.08
2435N17000	285.15	0.83	0.36	15.92	0.00	1912.52	1822.98	89.55	1903.57	2.18	0.13	0.23	5.49	0.00	92.08
2435N17200	251.73	0.75	0.32	14.32	0.00	1720.74	1640.65	80.09	1837.81	1.94	0.13	0.23	5.15	0.00	92.08
2435N35000	308.04	0.89	0.39	16.94	0.00	2038.18	1942.20	95.97	1892.45	2.35	0.15	0.23	5.67	0.00	92.08
2435X37000	307.60	0.88	0.39	16.87	0.00	2031.39	1935.70	95.69	1856.45	2.35	0.14	0.23	5.60	0.00	92.08
2435XG7000	285.17	0.83	0.36	15.92	0.00	1912.91	1823.35	89.56	1905.57	2.18	0.13	0.23	5.49	0.00	92.08
2440N15000	308.99	0.89	0.39	17.08	0.00	2053.08	1956.58	96.51	1971.90	2.36	0.13	0.23	5.79	0.00	92.08
2440N17000	313.74	0.90	0.40	17.23	0.00	2073.00	1975.37	97.63	1918.87	2.39	0.13	0.23	5.74	0.00	92.08



LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
2440N17200	281.81	0.82	0.36	15.75	0.00	1894.38	1805.61	88.77	1889.50	2.16	0.12	0.23	5.46	0.00	92.08
2440N17500	240.83	0.72	0.31	13.79	0.00	1658.35	1581.19	77.16	1800.14	1.86	0.12	0.23	5.03	0.00	92.08
2440N17F00	249.57	0.89	0.33	15.90	0.00	1853.19	1770.57	82.62	1808.67	2.05	0.13	0.23	5.02	0.00	92.08
2440N18000	331.20	0.94	0.42	18.01	0.00	2168.22	2065.74	102.48	1905.27	2.52	0.13	0.23	5.85	0.00	92.08
2440N18200	325.49	0.93	0.41	17.69	0.00	2132.55	2031.62	100.93	1853.53	2.48	0.13	0.23	5.75	0.00	92.08
2440N18F00	263.78	0.94	0.35	16.62	0.00	1938.23	1851.51	86.73	1777.74	2.16	0.13	0.23	5.08	0.00	92.08
2440N1H2M0	278.19	0.82	0.36	15.63	0.00	1884.95	1796.39	88.56	1902.86	2.15	0.14	0.23	5.58	0.00	92.08
2440N1HFM0	245.51	0.88	0.33	15.69	0.00	1835.73	1753.53	82.20	1842.96	2.02	0.14	0.23	5.17	0.00	92.08
2440N3L2S9	345.08	0.98	0.43	18.52	0.00	2245.31	2139.25	106.06	1802.66	2.62	0.14	0.23	5.84	0.00	92.08
2440N3LCS9	350.71	1.06	0.45	19.54	0.00	2341.72	2232.74	108.98	1807.08	2.72	0.14	0.23	5.84	0.00	92.08
2440N3R0S0	346.74	0.99	0.44	18.78	0.00	2272.52	2165.68	106.84	1950.93	2.64	0.13	0.23	6.04	0.00	92.08
2440N3R309	330.42	0.96	0.43	17.97	0.00	2198.23	2092.40	105.83	1803.17	2.58	0.14	0.23	6.30	0.00	92.08
2440N3RC09	340.49	1.10	0.45	19.79	0.00	2370.55	2259.50	111.05	1810.93	2.75	0.14	0.23	6.31	0.00	92.08
2440P3U2S0	333.73	0.96	0.42	18.04	0.00	2195.21	2092.40	102.82	1818.26	2.54	0.14	0.23	5.77	0.00	92.08
2440PGH0M0	332.59	0.95	0.42	18.17	0.00	2192.35	2088.45	103.90	1960.27	2.55	0.14	0.23	6.08	0.00	92.08
2440PGH2M0	287.94	0.84	0.37	16.06	0.00	1938.27	1846.95	91.32	1890.97	2.22	0.14	0.23	5.65	0.00	92.08
2440PGHF0M0	253.84	0.91	0.34	16.19	0.00	1893.24	1808.42	84.81	1829.27	2.10	0.14	0.23	5.22	0.00	92.08
2440S32200	324.95	0.92	0.41	17.61	0.00	2124.22	2023.59	100.64	1809.07	2.48	0.14	0.23	5.70	0.00	92.08
2440XG7000	308.34	0.89	0.39	16.99	0.00	2042.88	1946.77	96.11	1917.42	2.35	0.13	0.23	5.69	0.00	92.08
2444N17009	340.84	0.97	0.43	18.48	0.00	2225.00	2119.70	105.30	1932.15	2.60	0.13	0.23	5.97	0.00	92.08
2445N1F00M	351.59	1.00	0.45	18.96	0.00	2291.55	2182.49	109.06	1903.93	2.69	0.13	0.23	6.14	0.00	92.08
2450N1A0M0	357.58	1.02	0.45	19.34	0.00	2335.87	2224.77	111.10	1993.70	2.74	0.14	0.23	6.34	0.00	92.08
2450N1A3M0	299.51	0.88	0.39	16.64	0.00	2017.06	1921.37	95.69	1906.42	2.33	0.13	0.23	5.92	0.00	92.08
2450N1H3S0	283.10	0.84	0.36	15.87	0.00	1919.15	1829.97	89.18	1923.09	2.17	0.12	0.23	5.53	0.00	92.08
2450N1K2S0	334.04	0.96	0.42	18.10	0.00	2198.76	2095.63	103.13	1858.76	2.54	0.14	0.23	5.84	0.00	92.08
2450N3R0S0	354.44	1.01	0.45	19.13	0.00	2321.35	2212.45	108.89	1945.12	2.69	0.14	0.23	6.10	0.00	92.08

LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
<b>2450N3R2S0</b>	338.93	0.97	0.43	18.31	0.00	2227.20	2122.82	104.38	1842.54	2.58	0.15	0.23	5.86	0.00	92.08
<b>2450N3RAS0</b>	346.24	1.07	0.44	19.62	0.00	2351.89	2243.70	108.19	1870.06	2.70	0.15	0.23	5.90	0.00	92.08
<b>2450N3V2S9</b>	370.26	1.04	0.47	19.70	0.00	2393.71	2280.50	113.21	1829.58	2.81	0.14	0.23	6.08	0.00	92.08
<b>2450S32200</b>	386.58	1.07	0.48	20.44	0.00	2470.11	2352.05	118.06	1841.78	2.94	0.14	0.23	6.23	0.00	92.08
<b>2451N1K0S9</b>	389.08	1.10	0.49	20.73	0.00	2517.91	2399.26	118.64	1964.05	2.95	0.13	0.23	6.39	0.00	92.08
<b>2455N3V2S9</b>	369.96	1.04	0.46	19.66	0.00	2389.07	2276.04	113.03	1805.09	2.81	0.14	0.23	6.04	0.00	92.08
<b>245HN05000</b>	286.18	0.84	0.37	16.07	0.00	1928.66	1838.50	90.16	1989.54	2.19	0.12	0.23	5.63	0.00	92.08
<b>245HN15000</b>	285.81	0.84	0.37	16.02	0.00	1922.94	1832.99	89.95	1959.05	2.19	0.13	0.23	5.58	0.00	92.08
<b>245HN17000</b>	285.15	0.83	0.36	15.92	0.00	1912.52	1822.98	89.55	1903.57	2.18	0.13	0.23	5.49	0.00	92.08
<b>245HZAWL00</b>	97.19	0.69	0.16	10.50	0.00	1126.29	1084.83	41.46	1295.16	1.05	0.18	0.23	2.90	0.00	92.08
<b>245TN15200</b>	257.46	0.77	0.33	14.67	0.00	1760.71	1678.73	81.98	1903.10	1.98	0.13	0.23	5.30	0.00	92.08
<b>2460GARCS0</b>	472.15	1.52	0.61	26.65	0.00	3214.10	3064.21	149.89	1665.46	3.80	0.21	0.23	7.26	0.00	92.08
<b>2460N3RCS0</b>	356.98	1.14	0.46	20.54	0.00	2451.39	2339.36	112.03	1840.61	2.81	0.15	0.23	5.93	0.00	92.08
<b>246HN15000</b>	332.26	0.95	0.42	18.17	0.00	2184.76	2081.64	103.12	1993.25	2.54	0.13	0.23	6.00	0.00	92.08
<b>246HN15F00</b>	254.25	0.91	0.34	16.20	0.00	1887.04	1802.87	84.17	1854.10	2.09	0.13	0.23	5.13	0.00	92.08
<b>246HN17000</b>	331.48	0.94	0.42	18.05	0.00	2172.46	2069.82	102.64	1927.76	2.53	0.13	0.23	5.89	0.00	92.08
<b>246HN1F0M0</b>	332.55	0.95	0.42	18.11	0.00	2186.69	2082.99	103.70	1915.45	2.55	0.13	0.23	6.00	0.00	92.08
<b>246HPG8F00</b>	253.22	0.90	0.34	16.04	0.00	1870.94	1787.40	83.55	1768.12	2.07	0.13	0.23	4.99	0.00	92.08
<b>246HZAW800</b>	97.52	0.34	0.14	6.60	0.00	792.76	758.15	34.60	1269.10	0.78	0.18	0.23	3.06	0.00	92.08
<b>246KCG3300</b>	261.54	0.77	0.34	14.76	0.00	1775.03	1692.16	82.87	1830.92	2.01	0.12	0.23	5.21	0.00	92.08
<b>246KCG3F00</b>	238.89	0.86	0.32	15.30	0.00	1784.10	1704.73	79.37	1796.53	1.96	0.12	0.23	4.91	0.00	92.08
<b>246KN05000</b>	309.19	0.89	0.39	17.12	0.00	2056.28	1959.66	96.62	1988.90	2.36	0.13	0.23	5.81	0.00	92.08
<b>246KN07000</b>	308.68	0.89	0.39	17.04	0.00	2048.28	1951.98	96.30	1946.39	2.36	0.12	0.23	5.73	0.00	92.08
<b>246KN0A0S0</b>	310.08	0.90	0.40	17.21	0.00	2073.27	1976.42	96.85	2019.88	2.37	0.12	0.23	5.85	0.00	92.08
<b>246KN15000</b>	309.11	0.89	0.39	17.10	0.00	2054.98	1958.40	96.58	1981.90	2.36	0.13	0.23	5.80	0.00	92.08
<b>246KN17000</b>	308.45	0.89	0.39	17.00	0.00	2044.62	1948.44	96.18	1926.41	2.36	0.13	0.23	5.71	0.00	92.08

LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
246KN1E0M0	309.42	0.90	0.40	17.06	0.00	2057.53	1960.38	97.14	1914.54	2.38	0.13	0.23	5.81	0.00	92.08
246KN1H0S0	310.03	0.90	0.40	17.18	0.00	2073.61	1976.87	96.74	2001.40	2.37	0.12	0.23	5.83	0.00	92.08
246KN37000	307.90	0.88	0.39	16.92	0.00	2036.05	1940.18	95.87	1880.94	2.35	0.14	0.23	5.64	0.00	92.08
246KPG5300	254.20	0.76	0.33	14.48	0.00	1739.23	1658.21	81.02	1869.61	1.96	0.14	0.23	5.24	0.00	92.08
246KPG5F00	239.16	0.86	0.32	15.33	0.00	1787.60	1708.02	79.58	1853.99	1.96	0.13	0.23	5.02	0.00	92.08
246KPG7000	308.18	0.89	0.39	16.96	0.00	2040.45	1944.43	96.03	1904.43	2.35	0.13	0.23	5.67	0.00	92.08
246KPG7300	261.31	0.77	0.34	14.73	0.00	1771.44	1688.69	82.75	1811.94	2.01	0.13	0.23	5.19	0.00	92.08
246KPG8F00	238.62	0.86	0.32	15.26	0.00	1779.74	1700.52	79.22	1773.05	1.96	0.13	0.23	4.88	0.00	92.08
246KPGA000	308.70	0.89	0.39	17.04	0.00	2048.58	1952.24	96.34	1947.92	2.36	0.14	0.23	5.75	0.00	92.08
247HG3H000	377.23	1.05	0.47	20.09	0.00	2423.40	2307.94	115.46	1903.52	2.87	0.16	0.23	6.24	0.00	92.08
247KG3H000	354.07	0.99	0.45	19.02	0.00	2293.44	2184.53	108.91	1891.67	2.69	0.16	0.23	6.04	0.00	92.08
247KG3K000	353.81	0.99	0.44	18.98	0.00	2289.35	2180.62	108.73	1869.67	2.69	0.15	0.23	6.00	0.00	92.08
247KN37000	354.22	1.00	0.45	19.05	0.00	2295.88	2186.92	108.96	1904.64	2.70	0.14	0.23	6.04	0.00	92.08
2480N6R2S0	442.09	1.24	0.56	23.12	0.00	2845.23	2708.91	136.33	1867.61	3.39	0.15	0.23	7.16	0.00	92.08
248KG3R000	400.02	1.10	0.50	21.09	0.00	2547.38	2425.59	121.79	1883.40	3.04	0.17	0.23	6.40	0.00	92.08
249KGAR000	448.29	1.23	0.56	23.19	0.00	2829.43	2691.95	137.48	1740.40	3.43	0.23	0.23	7.01	0.00	92.08
24C1LAW0H9	124.48	0.42	0.17	8.09	0.00	967.30	924.65	42.65	1485.16	0.97	0.14	0.23	3.57	0.00	92.08
24F2N1H0S0	365.15	1.04	0.46	19.71	0.00	2390.24	2278.09	112.15	2018.15	2.77	0.13	0.23	6.28	0.00	92.08
24F2N6H1S0	424.56	1.16	0.53	21.68	0.00	2694.14	2541.37	152.77	1950.98	3.26	0.15	0.23	6.62	0.00	92.08
24F4N1H0S0	340.03	0.98	0.43	18.55	0.00	2241.72	2136.56	105.16	2005.74	2.59	0.12	0.23	6.07	0.00	92.08
24F4N1H0SK	351.09	1.03	0.46	19.18	0.00	2350.88	2238.40	112.48	2003.56	2.74	0.12	0.23	6.80	0.00	92.08
24F4N1H2S0	297.86	0.87	0.38	16.56	0.00	2001.85	1908.56	93.28	1940.83	2.28	0.12	0.23	5.66	0.00	92.08
24F5N1A2M0	308.00	0.89	0.40	17.01	0.00	2054.10	1956.96	97.14	1921.13	2.37	0.14	0.23	5.86	0.00	92.08
24F5N1LAS9	302.83	0.95	0.39	17.48	0.00	2087.80	1992.01	95.79	1891.75	2.37	0.12	0.23	5.57	0.00	92.08
24F5PGE2M0	299.70	0.87	0.38	16.54	0.00	1998.55	1904.06	94.49	1844.96	2.31	0.13	0.23	5.67	0.00	92.08
24F5PGEFM0	265.95	0.95	0.35	16.73	0.00	1959.41	1871.25	88.16	1782.79	2.19	0.13	0.23	5.24	0.00	92.08

LCIA methodology Scope: A1-A3	GWP kg CO <sub>2</sub> eq.	AP kg SO <sub>2</sub> eq.	EP kg N <sub>eq.</sub>	POCP kg O <sub>3</sub> eq.	ODP kg CFC 11 <sub>eq.</sub>	PEC MJ	NRE MJ	RE MJ	NRM kg	RM kg	CBW m <sup>3</sup>	CWW m <sup>3</sup>	TW m <sup>3</sup>	CHW kg	CNHW kg
<b>24F6N17300</b>	271.77	0.80	0.35	15.25	0.00	1839.29	1752.92	86.37	1834.31	2.10	0.13	0.23	5.40	0.00	92.08
<b>24NAGYR000</b>	971.53	2.40	1.15	46.15	0.00	5608.92	5331.68	277.24	1320.27	7.21	0.51	0.23	9.79	0.00	92.08
<b>24NAGYR001</b>	742.73	1.84	0.88	35.41	0.00	4311.59	4098.87	212.72	1007.99	5.52	0.58	0.23	7.72	0.00	92.08
<b>24V0N1A00M</b>	318.14	0.92	0.41	17.54	0.00	2114.74	2014.86	99.88	1985.39	2.44	0.13	0.23	5.99	0.00	92.08
<b>24V1N15300</b>	262.30	0.78	0.34	14.87	0.00	1786.87	1703.50	83.37	1891.94	2.02	0.13	0.23	5.33	0.00	92.08
<b>24V1N15F00</b>	242.80	0.87	0.32	15.59	0.00	1815.92	1735.14	80.78	1852.62	1.99	0.13	0.23	5.04	0.00	92.08

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