Environmental Product Declaration

DuraForce(iwp)

Concrete WaterProofing Admixture

Since 1993, FullForce by ABC Polymer Industries, LLC has been used and historically proven in over 200+ million cubic yards of fiber-reinforced concrete. FullForce is a growing company that values and understands the concepts of environmental responsibility and engineered sustainable solutions for construction design and business. We also value full transparency regarding the environmental impacts of construction materials and use that information to make project design choices that enable carbon footprint reduction. The DuraForce product line contributes to our ability to deliver systematically engineered concrete solutions to industry partners with a focus on constructable, transparent, innovative, and sustainable designs.

DuraForce(iwp) has been specifically formulated for use in normal and structural lightweight concrete mixes to produce low permeability concrete across a wide spectrum of mix designs.

UL CERTIFIED
ENVIRONMENTAL PRODUCT DECLARATION
UL.COM/EPD

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025, ISO 14040, and EN 15804+A2. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.

EPD PROGRAM AND PROGRAM OPERATOR NAME, ADDRESS, LOGO, AND WEBSITE	UL ENVIRONMENT 333 PFINGSTEN RD, NORTHBROOK, IL 60062 www.ul.com www.spot.ul.com
GENERAL PROGRAM INSTRUCTIONS AND VERSION NUMBER	Program Operator Rules v 2.7 2022
MANUFACTURER NAME AND ADDRESS	ISE Logik Industries, Inc. 5635 Iron Works Road Theodore, AL 36581
DECLARATION NUMBER	4790717442.102.1
DECLARED PRODUCT & DECLARED UNIT	DuraForce(iwp) Declared Unit = 1 kg
REFERENCE PCR AND VERSION NUMBER	Environmental Product Declarations of Institute Construction and Environment e.V. (IBU), Part B: Requirements on the EPD for Concrete admixtures
DESCRIPTION OF PRODUCT APPLICATION/USE	ISE Logik products are primarily used in commercial settings.
PRODUCT RSL DESCRIPTION	N/A
MARKETS OF APPLICABILITY	Global
DATE OF ISSUE	November 1, 2022
PERIOD OF VALIDITY	5 Years
EPD TYPE	Product Specific
RANGE OF DATASET VARIABILITY	N/A
EPD SCOPE	Cradle-to-Gate, with Options
YEAR(S) OF REPORTED PRIMARY DATA	February 2022 - May 2022
LCA SOFTWARE & VERSION NUMBER	SimaPro 9.2.0.2
LCI DATABASE(S) & VERSION NUMBER	Ecoinvent v3.5 & USLCI v2.0
LCIA METHODOLOGY & VERSION NUMBER	TRACI, CML 4.1, and methods as specified by EN15804+A2+AC2021
The sub-category PCR review was conducted by:	Institut Bauen und Umwelt (IBU) - PCR Review Panel
This declaration was independently verified in accordance with ISO 14025: 2006. The Institut Bauen und Umwelt e.V. (IBU) "Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project", based on EN 15804, serves as the core PCR, with additional considerations from CEN Norm EN 15804.	Cooper McCollum
☐ INTERNAL ☒ EXTERNAL	Cooper McCollum, UL Environment
This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by:	Sustainable Solutions Corporation
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	James Mellentine, Thrive ESG

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General Information

Description of Company/Organization

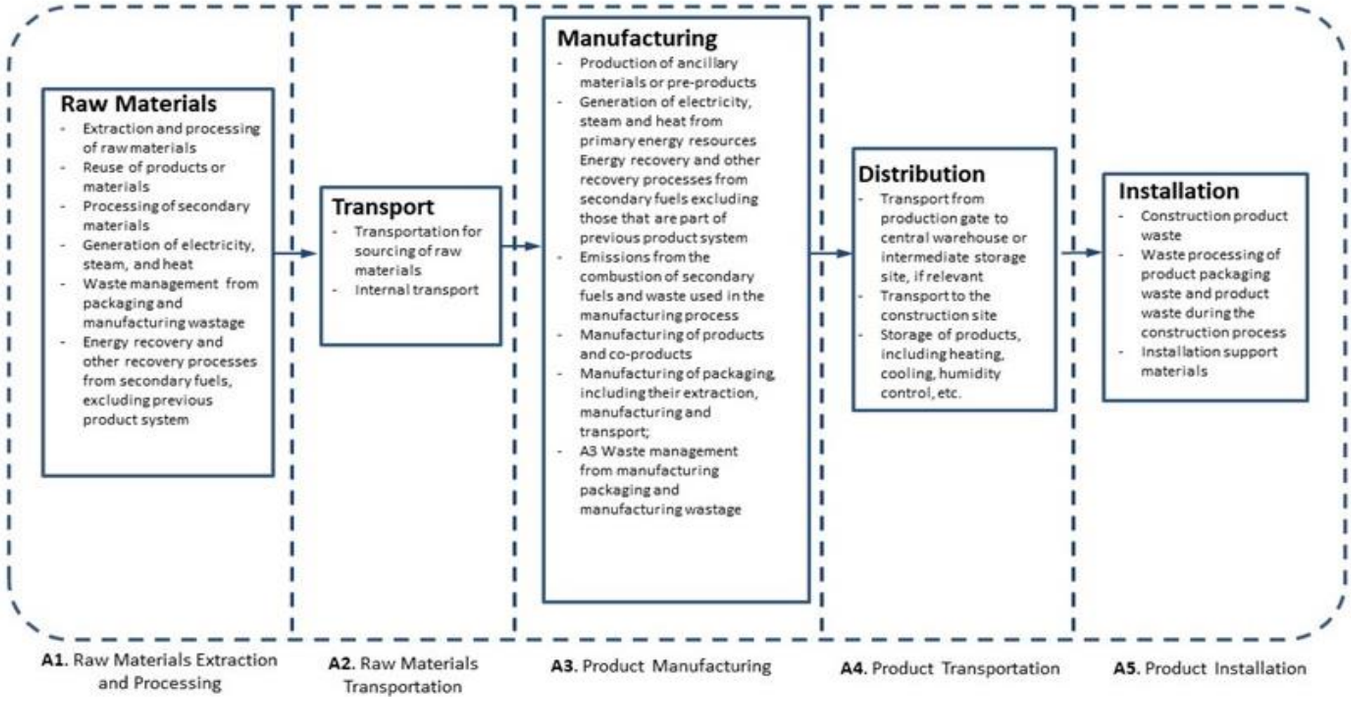
FullForce by ABC Polymer Industries, LLC is a specialty products supplier that is committed to delivering systematic engineered concrete solutions for industry partners such as architects, engineers, contractors, developers, municipalities, departments of transportation, and ready-mix concrete producers with a focus on constructible, transparent, innovative, and sustainable designs.

Production Description

DuraForce(iwp) is a non-toxic, VOC free, liquid admixture formulated to react with the hydroxide ions produced by the cement hydration process. DuraForce(iwp) creates additional hydration within the capillary pores and blocks them, effectively shutting down moisture movement through the concrete. DuraForce(iwp) will not promote nor contribute to corrosion of embedded or reinforcing steel. Perfectly suited for:

- Elevator pits and retaining walls
- Water retaining structures such as pools and cisterns
- Foundations
- Walls
- Footings
- Civil engineering projects of any magnitude

Flow Diagram



Manufacturer Specific EPD

This product-specific EPD was developed based on the cradle-to-gate, with options (modules A1-A5) Life Cycle Assessment. This includes raw material extraction and processing, raw material transport, product manufacturing, product transport, and installation. Manufacturing data were gathered directly from company personnel.

Application

DuraForce(iwp) is designed to reduce concrete's permeability and increase its resistance to water penetration under hydrostatic conditions.

Material Composition

The composition of the DuraForce(iwp) is as follows (mass %):

Component	DuraForce(iwp)
Water	44.0%
Sodium Silicate Liquid	56.0%
Additive	0.0001%
Total	**100.0%**

Techincal Data

For the declared product, the following technical data in the delivery status must be provided with reference to the test standard:

Category	Value	Unit
Density (ISO 758)	1.20 - 1.25	Specific Gravity
Solids content (EN 480-8)	N/A	(M.-%)
pH value (ISO 4316)	11.2	($\log_{10}$(aH+))
Chloride content (EN 480-10)	<0.1	(M.-%)
Alkali content (EN 480-12)	N/A	(M.-%)
Corrosion behavior (EN 934-1 / EN 480-14)	N/A	(µA/cm^2)
SiO_2 content (EN 192-2)	N/A	(M.-%)
Air content of fresh concrete (EN 12350-7)	N/A	(Vol.-%)
Compressive strength (EN 12390-3)	N/A	(N/mm^2)
Water reduction (EN 12350-2 / EN 12350-5) Plasticizer	N/A	(mm)
Increasing / maintaining of consistence (EN 12350-2 / EN 12350-5) Superplasticizer	N/A	(mm)
Setting time (EN 480-2) Accelerator/Retarder	N/A	(min)
Air void Characteristics in hardened concrete (EN 480-11) Air entrainer	N/A	(mm)
Capillary water absorption (EN 480-5)	N/A	(g/mm^2)
Formulated to Reduce Penetration of Liquids	Yes	-
Zero Volume of Water Passed Through Per US Army Corps CRD 48	Yes	-
Decreased Coefficient of Permeability Over Control	> 1000%	-
PRAH per ACI 212.3R	Yes	-
Autogenous Crack Healing	Yes	-
Minimal or No Effect On Setting Time (ASTM C403)	Yes	-
Reduces Drying Shrinkage by Day 28 (ASTM C157)	Yes	-
Minimal or No Effect On Slump (ASTM C143)	Yes	-
Increase in 28-day Compressive Strength (ASTM C39)	Yes	-
Volatile Organic Compounds (VOCs)	N/A	g/l
Hazardous Vapors	N/A	-

Market Placement / Application Rules

DuraForce(iwp) concrete waterproofing admixture is produced in accordance with ASTM C494, NSF 61, and NSF 372. Per LEED® DuraForce(iwp) is an inherently non-emitting source of VOCs, and is tested using EPA Method 24, ACoE CRD-C 48-92, and DIN 1048.5. DuraForce(iwp) is also HPD certified using HPD v2.2.

Properties of Declared Product as Delivered

Characteristics		
Product	DuraForce(iwp)	-
Thickness	N/A	cm
Density	1.20 - 1.25	(g/ml)

Methodological Framework

Declared Unit

The declaration refers to the functional unit of 1 kg of DuraForce(iwp).

Name	Value	Unit
Declared Unit	1.0	kg
Gross Density	1200 - 1250	kg/m^3
Conversion Factor	1.0	-

System Boundary

This is a cradle-to-gate with options Environmental Product Declaration. The following life cycle phases were considered:

Product Stage			Construction Process Stage		Use Stage							End of Life Stage*				Benefits and Loads Beyond the System Boundaries
Raw material supply	Transport	Manufacturing	Transport from gate to the site	Construction/ installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction /demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Description of the System Boundary Stages Corresponding to the PCR
(X = Included; MND = Module Not Declared)

*This includes provision of all materials, products and energy, packaging processing and its transport, as well as waste processing up to the end-of waste state or disposal of final residues.

Reference Service Life and Building Estimated Service Life

The Reference Service Life is determined by the guidance from the Product Category Rules and varies by product type and use phase scenario. Since the use phase is not included in this study, no Reference Service Life is declared.

Allocation

The LCI data was collected from the Theodore, AL manufacturing facility. This data was collected from February 2022 to May 2022. The Theodore, AL plant is a satellite facility that was established for ISE Logik production in late 2021. Satellite facilities allow ISE Logik to produce their product more efficiently since the production occurs in batch processing; thus, requiring less product line switches. Three months of data were determined to be sufficient because the line that the products are produced on is individually metered allowing the facility to collect primary data specific to each batch process, excluding data relevant to other products and removing the necessity for allocation between different product types. Allocation was done on a mass basis.

Cut-off Criteria

Processes whose total contribution to the final result, with respect to their mass and in relation to all considered impact categories, is less than 1% can be neglected. The sum of the neglected processes may not exceed 5% by mass of the considered impact categories. For that a documented assumption is admissable.

For Hazardous Substances - as defined by the U.S. Occupational Health and Safety Act the following requirements apply:

- The Life Cycle Inventory (LCI) of hazardous substances will be included, if the inventory is available.
- If the LCI for a hazardous substance is not available, the substance will appear as an input in the LCI of the product, if its mass represents more than 0.1% of the product composition.
- If the LCI of a hazardous substance is approximated by modeling another substance, documentation will be provided.

This EPD is in compliance with the cut-off criteria. No processes were neglected or excluded. Capital items for the production processes (machine, buildings, etc.) were not taken into consideration.

Data Sources/Background Data

For life cycle modeling, the SimaPro v9.2.0.2 Software, a recognized LCA modeling software program, was used. All background data sets relevant for production and disposal were taken from this software. Datasets include those from Ecoinvent v3.5 and the US LCI database.

Data Quality

For the data used in this LCA, the data quality is considered to be good to high quality. The data and data sets cover all relevant process steps and technologies over the supply chain of the represented products. The majority of secondary data sets are from the Ecoinvent v3.5 database and the US LCI database, the study adopts critically reviewed data wherever possible for consistency, precision, and reducibility to limit uncertainty. The data used are complete and representative of North America in terms of the geographic and technological coverage and is of a recent vintage, i.e., less than ten years old.

Period Under Review

The data used for the Life Cycle Assement refer to the production processes from February 2022 to May 2022. The quantities of raw materials, energies, auxilary materials, and supplies used have been ascertained as average monthly values.

Comparability

A comparison or an evaluation of EPD data is only possible if all data sets to be compared were created according to EN 15804+A2 and the building context, respectively the product-specific characteristics of performance, are taken into account. Environmental product delarations from different programs may not be comparable. Full conformance with the PCR for concrete admixture products allows EPD comparability only when all stages of a product's life cycle have been considered. However, variations and deviations are possible.

Estimates and Assumptions

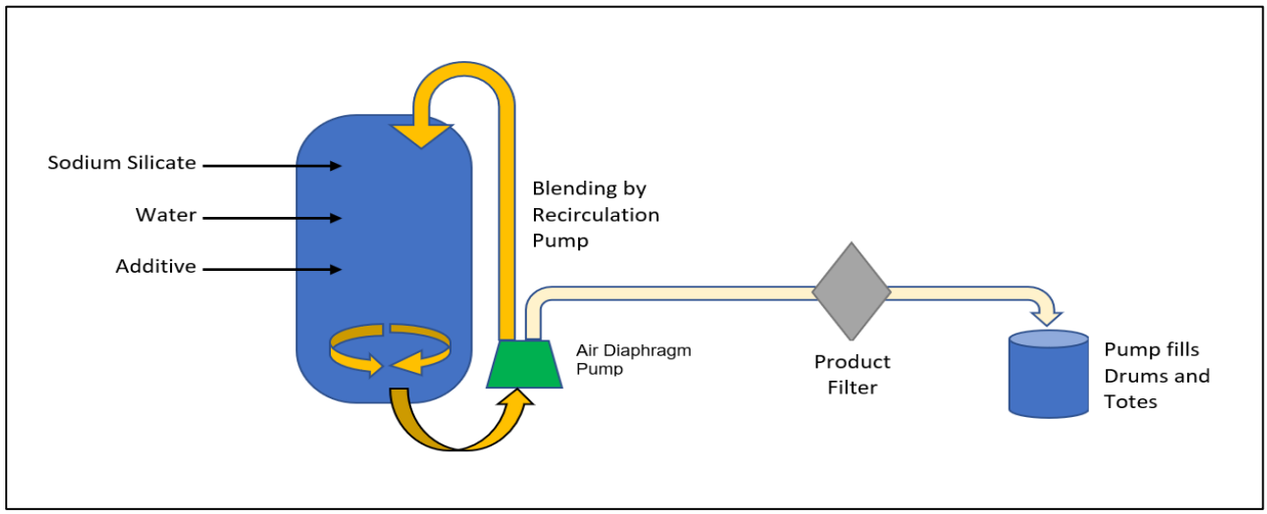
A significant majority of sales of the products in this LCA occur within North America, specifically within the continental USA .

Raw material transport from supplier to manufacturer:	Mode: Diesel-powered truck/trailer Distance: 175 miles
Manufacturing waste and product disposal transportation:	Mode: Diesel-powered truck/trailer Distance: 50 miles

Technical Information and Scenarios

Manufacturing

The FullForce product is manufactured by ISE Logik in Theodore, AL. The three primary ingredients, water, sodium silicate, and an additive are added to a mixing tank with a recirculation pump. The water is piped in from the municipal tap, sodium silicate is tankered into a storage tank, and an additive comes in a packaging bag (which is the only waste stream of the manufacturing facility). After proper mixing, the product is pumped out of the tank by an air diaphragm pump and passes through a filter before it is packaged in drums and totes for shipping. There is no scrap generated during manufacturing. Residue from the filter is added to the next batch process to be worked into the next product, eliminating any waste product from process.



Packaging

These products are packaged with plastic in the following forms:

Component	Percentage in Mass (%)
Shrink wrap	7.22%
Plastic strapping	5.41%
55-gal Poly Drum	77.73%
15-gal Poly Drum	9.64%
Total	**100.00%**

Biogenic Carbon Content

Name	Value	Unit per declared unit
Biogenic Carbon Content in product	0.00	kg C
Biogenic Carbon Content in accompanying packaging	0.00	kg C

Transportation

Transport to Construction Site (A4)		
Name	**DuraForce(iwp)**	**Unit**
Fuel Type	Diesel	-
Liters of fuel	38	l/100km
Vehicle Type	0.05% by ship 99.95% by truck	-
Transport Distance	2819	km
Capacity Utilization (including empty runs, volume based)	90	%
Gross Density of Products Transported	1200 - 1250	kg/m^3
Capacity Utilization Volume Factor	1	-

Product Installation

Installation is accomplished by dosing the liquid admixture directly into the concrete at the time of batching.
There are no apparent risks involved with the installation of the admixture. The installer should wear appropriate PPE while dosing the product and while installing the concrete.

Installation into the Road (A5)		
Name	**DuraForce(iwp)**	**Unit**
Auxiliary materials	-	kg
Water consumption	-	m^3
Other resources	-	kg
Electricity consumption	-	kWh
Other energy carriers	-	MJ
Product loss per functional unit	0.00E+00	kg
Waste materials at construction site	6.31E-03	kg
Packaging substance (landfill)	6.31E-03	kg
Packaging substance (incineration)	0.00E+00	kg
Packaging substance (recycling)	0.00E+00	kg
Biogenic carbon contained in packaging	0.00E+00	kg CO_2
Direct emissions to ambient air*, soil, and water	0.00E+00	kg CO_2
VOC emissions	-	$\mu g/m^3$

** CO_2 emissions to air from disposal of packaging*

LCA Results

Results shown below were calculated using TRACI 2.1 Methodology.

TRACI 2.1 Impact Assessment					
Parameter	**Parameter**	**Unit**	**A1-A3**	**A4**	**A5**
GWP	Global warming potential	kg CO_2-Eq.	2.99E-01	2.61E-01	4.73E-03
ODP	Depletion potential of the stratospheric ozone layer	kg CFC-11 Eq.	1.38E-08	9.97E-12	9.16E-12
AP Air	Acidification potential for air emissions	kg SO_2-Eq.	1.69E-03	1.56E-03	2.23E-06
EP	Eutrophication potential	kg N-Eq.	6.45E-04	8.70E-05	2.58E-04
SP	Smog formation potential	kg O_3-Eq.	2.02E-02	4.28E-02	5.80E-05
FFD	Fossil fuel depletion	MJ-surplus	3.37E-01	4.71E-01	8.63E-05

Results shown below were calculated using methodologies prescribed in EN 15804+A2.

EN 15804+A2 Impact Categories					
Parameter	**Parameter**	**Unit**	**A1-A3**	**A4**	**A5**
GWP	Climate Change - total	kg CO_2-Eq.	3.17E-01	2.68E-01	5.12E-03
ODP	Ozone depletion	kg CFC-11 eq.	1.29E-08	6.81E-12	8.68E-12
IRP	Ionising radiation, human health	kBq U-235 eq.	8.83E-03	0.00E+00	2.66E-06
POCP	Photochemical ozone formation, human health	kg NMVOC eq.	1.10E-03	1.95E-03	4.84E-06
PM	Particulate matter	Disease incidences	2.19E-08	3.72E-09	1.92E-09
HTP-nc	Human toxicity, non-cancer	CTU_h	4.21E-09	4.53E-09	4.75E-11
HTP-c	Human toxicity, cancer	CTU_h	2.13E-10	3.57E-11	8.73E-12
AP	Acidification	Mole of H^+ eq.	2.02E-03	1.43E-03	1.77E-06
EP-freshwater	Eutrophication, freshwater	kg P eq.	7.28E-05	0.00E+00	4.97E-09
EP-marine	Eutrophication, marine	kg N eq.	3.28E-04	6.70E-04	2.82E-06
EP-terrestrial	Eutrophication, terrestrial	Mole of N eq.	4.32E-03	7.31E-03	9.49E-06
ETP-fw	Ecotoxicity, freshwater	CTU_e	1.12E+01	7.03E+00	6.77E-02
LU	Land Use	Pt	1.89E+00	0.00E+00	1.81E-03
WDP	Water use	m^3 world equiv.	1.06E-01	0.00E+00	5.13E-06
ADPF	Resource use, fossils	MJ	3.44E+00	3.36E+00	6.68E-04
ADPE	Resource use, mineral and metals	kg Sb eq.	7.37E-06	0.00E+00	1.29E-10
GWP- Fossil	Climate Change, fossil	kg CO_2-Eq.	3.07E-01	2.68E-01	5.12E-03
GWP-Biogenic	Climate Change, biogenic	kg CO_2-Eq.	9.06E-03	0.00E+00	1.34E-07
GWP-luluc	Climate Change, land use and land use change	kg CO_2-Eq.	9.75E-05	0.00E+00	1.35E-08

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP =Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for nonfossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential
PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Results below contain the resource use throughout the life cycle of the product.

Resource Use					
Parameter	**Parameter**	**Unit**	**A1-A3**	**A4**	**A5**
PERE	Renewable primary energy as energy carrier	MJ, lower calorific value	7.45E-02	0.00E+00	6.93E-06
PERM	Renewable primary energy resources as material utilization	MJ, lower calorific value	1.63E-01	0.00E+00	3.17E-06
PERT	Total renewable primary energy use	MJ, lower calorific value	2.37E-01	0.00E+00	1.01E-05
PENRE	Nonrenewable primary energy as energy carrier	MJ, lower calorific value	3.68E+00	3.57E+00	7.14E-04
PENRM	Nonrenewable primary energy as material utilization	MJ, lower calorific value	2.84E-01	0.00E+00	0.00E+00
PENRT	Total non-renewable primary energy use	MJ, lower calorific value	3.97E+00	3.57E+00	7.14E-04
SM	Use of secondary material	MJ, lower calorific value	0.00E+00	0.00E+00	0.00E+00
RSF	Use of renewable secondary fuels	MJ, lower calorific value	0.00E+00	0.00E+00	0.00E+00
NRSF	Use of nonrenewable secondary fuels	MJ, lower calorific value	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	m^3	8.03E-04	0.00E+00	8.25E-08

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of nonrenewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

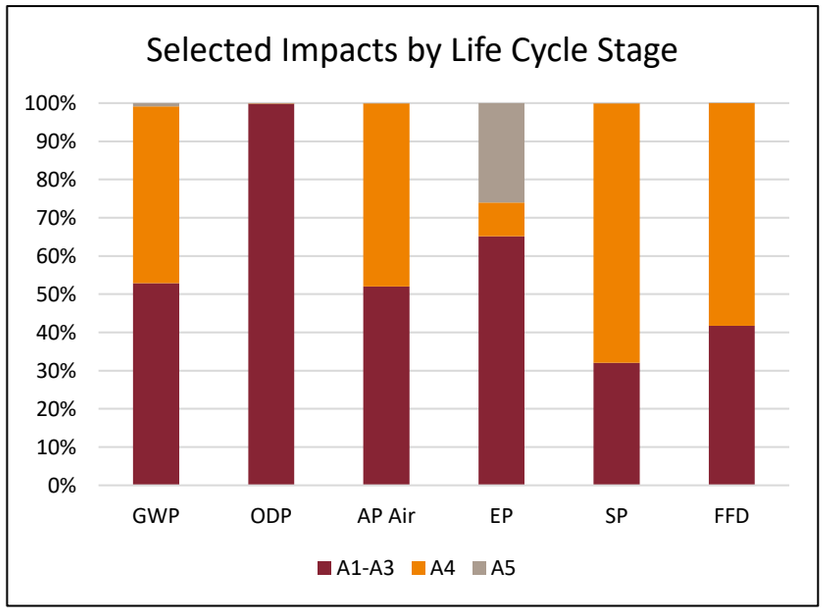
Results below contain the output flows and wastes throughout the life cycle of the product.

Output Flows and Waste Categories					
Parameter	**Parameter**	**Unit**	**A1-A3**	**A4**	**A5**
HWD	Hazardous waste disposed	kg	3.46E-06	0.00E+00	3.29E-09
NHWD	Non-hazardous waste disposed	kg	4.46E-02	0.00E+00	5.04E-05
RWD	Radioactive waste disposal	kg	5.23E-06	0.00E+00	3.48E-09
CRU	Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00
MR	Materials for recycling	kg	0.00E+00	0.00E+00	0.00E+00
MER	Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00
EEE	Exported energy, electrical	MJ	0.00E+00	0.00E+00	0.00E+00
EET	Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EEE = Exported thermal energy

Interpretation

The raw material life cycle stage (A1) is the key driver of environmental impact categories. This is due to the production and processing of sodium silicate used in the product. A close second driver is the distribution transportation life cycle stage (A4) whcih drives two impact categories, fossil fuel depletion and smog formation, specifically from the emissions of diesel and gas usage and long transportation distances.



EN 15804 Disclaimers on Select Impact Categories

ILCD classification	Indicator	Disclaimer
ILCD Type 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD Type 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
ILCD Type 3	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2
	Potential Comparative Toxic Unit for humans (HTP-c)	2
	Potential Comparative Toxic Unit for humans (HTP-nc)	2
	Potential Soil quality index (SQP)	2

Disclaimer 1 – This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

Additional Environmental Information

Environment and Health During Manufacturing

FullForce products are produced under the most exacting chemical manufacturing processes available with a focus on responsible raw material sourcing and manufacturing to promote the health of our planet. ISE Logik's state-of- the-art chemical manufacturing facility blends specialty chemical admixtures for cementitious products. Each batch is pre-tested for performance and is HPD and NSF certified. (See DuraForce(iwp) Safety Data Sheet for complete details.)

Environmental and Health During Installation

FullForce DuraForce(iwp) Admixture is dosed directly into the concrete at the time of batching, and creates additional hydration within the capillary pores and blocks them, effectively shutting down moisture movement through the concrete. This product does not contain any components that have regulatory occupational exposure limits (OEL's) established and is not reactive under normal temperatures and pressures. (See DuraForce(iwp) Safety Data Sheet for complete details.)

Extraordinary Effects

Fire
Avoid inhalation of material or combustion by-products. Stay up wind and keep out of low areas. Liquid material is an aqueous solution and non-flammable.

Water
None

Mechanical Destruction
None

Delayed Emissions

Global warming potential is calculated using the IPCC fifth assessment report (IPCC 2013) and CML 4.1 impact assessment methodologies. Delayed emissions are not considered.

Environmental Activities and Certifications

FullForce is fully committed to providing product transparency and low-VOC, sustainable, and innovative products for our industry partners. Our DuraForce(iwp) admixture has complete ingredient transparency and greener product design, meeting the standard of the Health Product Declaration Collaborative for detailed product content information. It is listed on mindful MATERIALS to provide sustainability information to architects, designers and engineers. DuraForce(iwp) also received the NSF International seal certifying it is lead-free and safe to use as a drinking water system component.

Further Information

FullForce by ABC Polymer Industries, LLC
www.FullForceSolutions.us
545 Elm Street
Helena, AL 35080

References

- PCR Part A — Product Category Rules for Building-Related Products and Services, Institut Bauen und Umwelt e.V. (IBU), Part A: Calculation Rules for the Life Cycle As-sessment and Requirements on the Project Re-port
- PCR Part B — Environmental Product Declarations of Institute Construction and Environment e.V. (IBU), Part B: Requirements on the EPD for Concrete admixtures
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