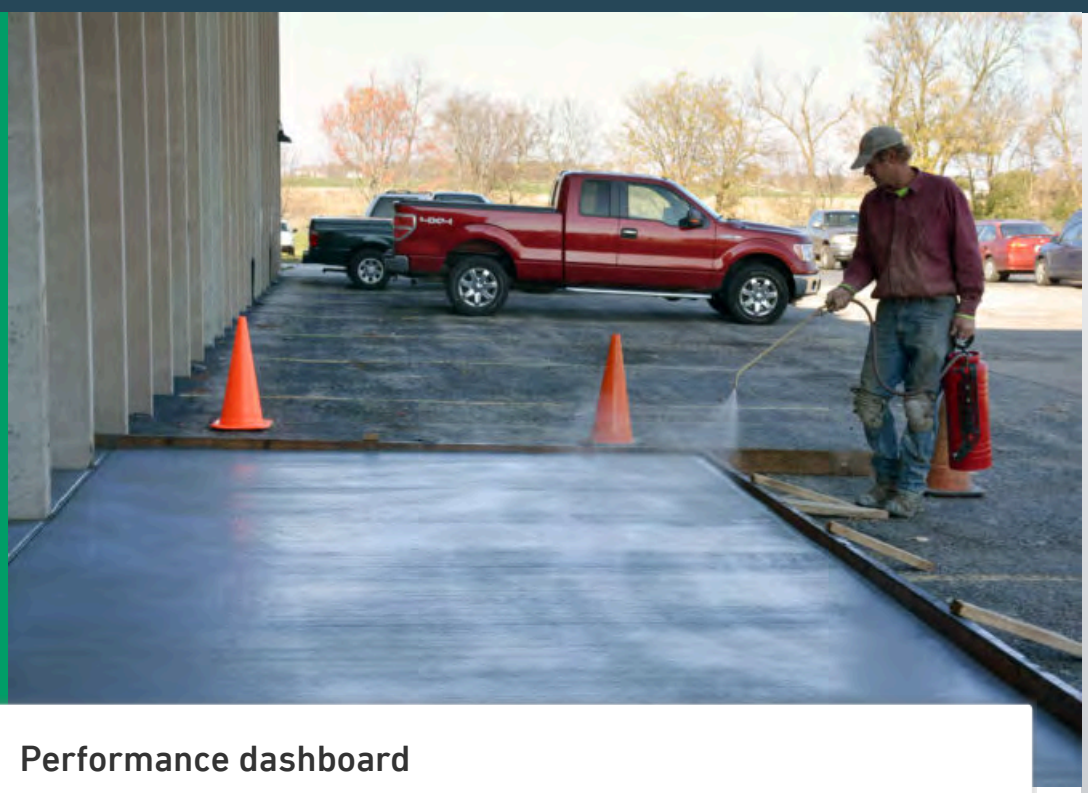
W. R. MEADOWS®

VOCOMP®-20, -25, -30

The VOCOMP series from W. R. MEADOWS features a range of water-based, acrylic curing and sealing compounds designed to protect and enhance concrete surfaces. These products provide a durable, breathable, and UV-resistant seal that protects the concrete.



Performance dashboard

Features & functionality

The VOCOMP series of products are concrete curing and sealing compounds designed for both fresh and existing concrete.

The VOCOMP products are acrylic curing and sealing compounds formulated using special acrylic polymers in a true water-based carrier.

Once properly applied, VOCOMP provides a durable film for efficient moisture retention.

VOCOMP appears milky white in the container and, when first applied, leaves a bluish cast on the concrete for easy visual confirmation of coverage.

VOCOMP resists yellowing from ultraviolet exposure and provides a durable, long-lasting finish that offers improved resistance to chemicals and wear.

Visit W.R. MEADOWS for more product information:

VOCOMP-20
VOCOMP-25
VOCOMP-30

MasterFormat® 03 39 23
VOCOMP Guide specs

For spec help, contact us or call 800-342-5976.

Environment & materials

Improved by:

No added formaldehyde

Made in the United States & Canada

VOC CONTENT:
VOCOMP-20: 20 g/L
VOCOMP-25: 54 g/L
VOCOMP-30: 157 g/L

CDPH Standard Method v1.2, MAS Certified Green® Low-Emitting Materials

USGBC member

CAGBC member

Certifications, rating systems & disclosures:

Health Product Declaration

Product ingredients do not contain chemicals in the Living Building Challenge Red List

Build America, Buy America Act compliant

See LCA, interpretation & rating systems

SM Transparency Report (EPD)™

EPD	LCA
3rd-party reviewed	✔
	Transparency Report (EPD)
3rd-party verified	✔

Validity: 05/28/25 – 05/28/30
SM-WRM – 05282025 – 009

This environmental product declaration (EPD) was externally verified by Lindita Bushi, PhD, Senior Research Associate at Athena, according to ISO 21930:2017; NSF PCR for Architectural Coatings; and ISO 14025:2006.

Athena Sustainable Materials Institute
600 Grings Hill Road
Sinking Spring, PA 19608
https://www.athenasmi.org/
(610) 985-0933

Athena Sustainable Materials Institute

SUMMARY

Reference PCR
NSF PCR for Architectural Coatings

Regions; system boundaries
North America; Cradle-to-grave

Functional unit: 1 m^2

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2

Public LCA:
LCA of W. R. MEADOWS Concrete curing products

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Lindita Bushi, PhD, Senior Research Associate at Athena.

W.R. MEADOWS, Inc.
300 Industrial Drive
P.O. Box 338
Hampshire, IL 60140-0338
wrmeadows.com
(800) 342-5976

Contact us

© 2025 | The SM Transparency Report [EPD]™ Program is operated by Sustainable Minds® (www.sustainableminds.com) | Privacy policy

LCA results & interpretation

VOCOMP®

VOCOMP®-20 | VOCOMP®-25 | VOCOMP®-30 | EPD additional content

Scope and summary

○ Cradle to gate ○ Cradle to gate with options ◉ Cradle to grave

Application

VOCOMP® 20 is a water-based acrylic concrete curing and sealing compound is formulated with 20% solids using acrylic polymers in a water-based carrier. VOC compliant.

Functional unit

According to the PCR, the functional unit is 1 m^2 of covered and protected substrate for a period of 60 years (the assumed average lifetime of a building).

W. R. MEADOWS' VOCOMP and MEL-PRIME products fall within the general category of curing, sealing, and priming coatings. The product life for coatings is typically defined by market lifetime (5 years) and technical life (either 5, 10, or 20 years), depending on performance in durability tests as outlined in the PCR. Since VOCOMPs are single-use products that do not require reapplication, the functional unit considers only the initial application, with no additional reapplications over the 60-year lifespan of a building. The results in this report are presented per functional unit.

Density: 8.59 lb/gal

Coverage: 7.36 m^2/L

Reference flow: 0.14 kg/functional unit

Manufacturing data

Reporting period: January 2023 – December 2023
Location: Cartersville, GA, USA; Ft Worth, TX, USA; Goodyear, AZ, USA; Hampshire, IL, USA; York, PA, USA; Benicia, CA, USA; Milton, Ontario, CAN; Sherwood Park, Alberta, CAN

Material composition by wt%

MATERIAL	WT%
Polymer emulsion	70-81%
Solvent	<5%
Additives	<3%
Packaging, plastic	<5%
Packaging, steel drum	<5%
Packaging, wood pallet	<1%
Packaging, stretch film	<1%

Average plant impacts by life cycle stage [mPts/func unit]

LIFE CYCLE STAGE	MPTS/FUNC. UNIT
Product stage	9.87E-03
Design & construction	1.87E-03
Use & maintenance	9.65E-04
End of life	2.29E-04
Total impacts = 1.29E-02 mPts	

What's causing the greatest impacts

All life cycle stages

The product stage [1.1. - 1.3] dominates the results for all impact categories. The raw material manufacturing stage contributes the most to the overall impact across all locations. Coating manufacturing (1.3) and transportation stages (1.2, 2.1, and 2.2) also have significant contributions, but to a lesser extent. End-of-life management and emissions from drying show small but nonzero contributions, which reflect the packaging waste and disposal-related emissions.

Production Stage

Polymers and film-forming agents are the dominant contributors to environmental impacts in the production stage. The synthetic polymers serve as the primary functional components of the curing compound. It generates for the majority of the global warming potential and fossil fuel depletion because of their petrochemical origins and energy intensive synthesis. The blending and coating processes used to incorporate these polymers, along with associated chemical stabilizers, contribute significantly to smog formation and ozone depletion impacts. Because the VOCOMP 20 product is produced domestically and distributed regionally, long-distance transport impacts are minimized. In terms of manufacturing, differences in electricity grids and natural gas sourcing across plants results in various energy-related impacts.

Design & Construction Stage

Transportation to the installation site via truck is the primary contributor in the construction stage. Although this stage contributes less than 10% of total impact in most categories, regional differences in transport distances and logistics create slight variation. For instance, Cartersville and Sherwood show slightly higher construction-stage GWP and smog emissions than Hampshire or Milton. Still, these impacts remain secondary compared to production.

Use & Maintenance Stage

Use-stage impacts are minimal across all plants. The water or energy consumption during use is not accounted for or because VOCOMPs are single-use products that do not require reapplication. The curing product remains inert during its service life, with no substantial emissions or operational burden.

End-of-life Stage

Overall, the end-of-life stage plays a limited role in the environmental profile of VOCOMP 20, with most impacts confined to background waste treatment processes. At end-of-life, VOCOMP 20 remains adhered to concrete surfaces and is not designed for removal before demolition. The dominant impacts in this stage is from the landfilling of concrete debris coated with residual product, where trace emissions may be released during material fragmentation or disposal handling. These contributions appear in global warming, acidification, and ecotoxicity categories but remain below 5% of the total life cycle impact. Packaging materials, primarily plastic pails or metal drums, also contribute minor burdens during disposal, particularly in fossil fuel depletion and respiratory effect categories.

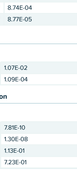
How we're making it greener

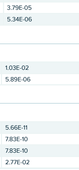
- W. R. MEADOWS utilizes OEE (Overall Equipment Effectiveness) to optimize manufacturing processes and reduce energy consumption.
- OEE identifies inefficiencies and wasted energy. By monitoring equipment performance, it uncovers downtime, slow speeds, and quality defects.
- Energy-saving improvements through OEE: Meadows has achieved streamlined processes, better scheduling, reduced machine wear, and lower energy costs.
- Reduction in scrap and waste: OEE insights help identify performance issues, reducing defects, delays, and material waste while enhancing product quality.
- Supports sustainability and environmental goals: By lowering energy use and cutting carbon footprints, OEE fosters more sustainable manufacturing practices.

See how we make it greener

LCA results

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
	(X) 1.1 Raw materials manufacturing	**(X) 2.1 Transportation to distribution center**	**(X) 3.1 Coating application**	**(X) 4.1 Transportation to disposal site**
	(X) 1.2 Transportation of raw materials to plants	**(X) 2.2 Transportation to point of sale/ Installation**	**(X) 3.2 Emission from drying**	**(X) 4.2 End-of-life management**
Information modules: Included (X) | Excluded (MND)/	**(X) 1.3 Coating manufacturing**	**(X) 2.3 Transportation to application site**	**(X) 3.3 Necessary maintenance and repair**	





SM Single Score Learn about SM Single Score results

Impacts per functional unit	9.87E-03 mPts	1.87E-03 mPts	9.65E-04 mPts	2.29E-04 mPts
Materials or processes contributing >20% to total impacts in each life cycle stage	Polymer resins and solvent components, along with manufacturing processes such as blending, emulsifying, and packaging.	Transportation of the product to the installation site.	Emission from drying.	Transport to waste facilities, background emissions from landfilling of coated concrete, and disposal of packaging waste.

Life cycle impact results per functional unit (Benicia, CA)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{TOTAL}$ / kg CO_2 eq	3.06E-01	3.79E-02	1.93E-02	3.31E-03
GWP, IPCC $_{BIOGENIC}$ / kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$ / kg CO_2 eq	3.14E-01	3.79E-02	1.18E-02	3.31E-03
GWP, TRACI 2.1 $_{TOTAL}$ / kg CO_2 eq	2.99E-01	3.74E-02	1.90E-02	2.93E-03
GWP, TRACI 2.1 $_{BIOGENIC}$ / kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$ / kg CO_2 eq	3.06E-01	3.74E-02	1.15E-02	2.93E-03
Ozone depletion / kg CFC-11 eq	6.52E-09	5.38E-10	1.61E-10	1.06E-11
Acidification / kg SO_2 eq	8.74E-04	9.24E-05	3.79E-05	2.50E-06
Eutrophication / kg N eq	8.77E-05	6.28E-06	5.34E-06	6.11E-07
Human health damage				
Impact category / Unit				
Smog / kg O_3 eq	1.07E-02	2.37E-03	1.03E-02	6.97E-05
Respiratory effects / kg $PM_{2.5}$ eq	1.09E-04	1.27E-05	5.89E-06	3.60E-07
Additional environmental information				
Impact category / Unit				
Carcinogenics / CTU_h	7.81E-10	2.39E-11	5.66E-11	1.76E-09
Non-carcinogenics / CTU_h	1.30E-08	4.62E-09	7.83E-10	2.70E-03
Ecotoxicity / CTU_e	1.13E-01	4.62E-09	7.83E-10	1.18E-03
Fossil fuel depletion / MJ surplus	7.23E-01	7.12E-02	2.77E-02	2.50E-11

Life cycle impact results per functional unit (Cartersville, GA)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{TOTAL}$ / kg CO_2 eq	1.73E-01	4.03E-02	1.93E-02	3.31E-03
GWP, IPCC $_{BIOGENIC}$ / kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$ / kg CO_2 eq	1.81E-01	4.03E-02	1.18E-02	3.31E-03
GWP, TRACI 2.1 $_{TOTAL}$ / kg CO_2 eq	1.68E-01	3.98E-02	1.90E-02	2.93E-03
GWP, TRACI 2.1 $_{BIOGENIC}$ / kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$ / kg CO_2 eq	1.76E-01	3.98E-02	1.15E-02	2.93E-03
Ozone depletion / kg CFC-11 eq	3.77E-09	5.72E-10	1.61E-10	1.06E-11
Acidification / kg SO_2 eq	5.68E-04	9.83E-05	3.79E-05	2.49E-06
Eutrophication / kg N eq	7.08E-05	6.68E-06	5.34E-06	6.11E-07
Human health damage				
Impact category / Unit				
Smog / kg O_3 eq	7.53E-03	2.52E-03	1.03E-02	6.97E-05
Respiratory effects / kg $PM_{2.5}$ eq	8.89E-05	1.35E-05	5.90E-06	3.60E-07
Additional environmental information				
Impact category / Unit				
Carcinogenics / CTU_h	6.31E-10	2.54E-11	5.66E-11	2.50E-11
Non-carcinogenics / CTU_h	8.51E-09	4.91E-09	7.83E-10	1.76E-09
Ecotoxicity / CTU_e	7.37E-02	1.00E-01	5.11E-03	2.70E-03
Fossil fuel depletion / MJ surplus	5.02E-01	7.58E-02	2.78E-02	1.18E-03

Life cycle impact results per functional unit (Forth Worth, TX)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{TOTAL}$ / kg CO_2 eq	1.44E-01	2.80E-02	1.93E-02	3.31E-03
GWP, IPCC $_{BIOGENIC}$ / kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$ / kg CO_2 eq	1.52E-01	2.80E-02	1.18E-02	3.31E-03
GWP, TRACI 2.1 $_{TOTAL}$ / kg CO_2 eq	1.42E-01	2.77E-02	1.90E-02	2.93E-03
GWP, TRACI 2.1 $_{BIOGENIC}$ / kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$ / kg CO_2 eq	1.49E-01	2.77E-02	1.15E-02	2.93E-03
Ozone depletion / kg CFC-11 eq	1.98E-09	3.98E-10	1.61E-10	1.06E-11
Acidification / kg SO_2 eq	4.82E-04	6.84E-05	3.79E-05	2.49E-06
Eutrophication / kg N eq	6.18E-05	4.65E-06	5.34E-06	6.11E-07
Human health damage				
Impact category / Unit				
Smog / kg O_3 eq	6.78E-03	1.76E-03	1.03E-02	6.97E-05
Respiratory effects / kg $PM_{2.5}$ eq	7.67E-05	9.42E-06	5.89E-06	3.60E-07
Additional environmental information				
Impact category / Unit				
Carcinogenics / CTU_h	8.40E-10	1.77E-11	5.66E-11	2.50E-11
Non-carcinogenics / CTU_h	9.74E-09	3.42E-09	7.83E-10	1.76E-09
Ecotoxicity / CTU_e	1.10E-01	6.97E-02	5.12E-03	2.71E-03
Fossil fuel depletion / MJ surplus	3.18E-01	5.28E-02	2.77E-02	1.18E-03

Life cycle impact results per functional unit (Goodyear, AZ)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{TOTAL}$ / kg CO_2 eq	1.58E-01	3.22E-02	1.93E-02	3.31E-03
GWP, IPCC $_{BIOGENIC}$ / kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$ / kg CO_2 eq	1.65E-01	3.22E-02	1.18E-02	3.31E-03
GWP, TRACI 2.1 $_{TOTAL}$ / kg CO_2 eq	1.56E-01	3.18E-02	1.90E-02	2.93E-03
GWP, TRACI 2.1 $_{BIOGENIC}$ / kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$ / kg CO_2 eq	1.63E-01	3.18E-02	1.15E-02	2.93E-03
Ozone depletion / kg CFC-11 eq	2.76E-09	4.57E-10	1.61E-10	1.06E-11
Acidification / kg SO_2 eq	5.30E-04	7.85E-05	3.79E-05	2.49E-06
Eutrophication / kg N eq	6.83E-05	5.33E-06	5.34E-06	6.11E-07
Human health damage				
Impact category / Unit				
Smog / kg O_3 eq	7.23E-03	2.02E-03	1.03E-02	6.97E-05
Respiratory effects / kg $PM_{2.5}$ eq	8.12E-05	1.08E-05	5.89E-06	3.60E-07
Additional environmental information				
Impact category / Unit				
Carcinogenics / CTU_h	8.67E-10	2.03E-11	5.66E-11	2.50E-11
Non-carcinogenics / CTU_h	9.88E-09	3.92E-09	7.83E-10	1.76E-09
Ecotoxicity / CTU_e	1.17E-01	8.00E-02	5.12E-03	2.71E-03
Fossil fuel depletion / MJ surplus	3.47E-01	6.05E-02	2.77E-02	1.18E-03

Life cycle impact results per functional unit (Hampshire, IL)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{TOTAL}$ / kg CO_2 eq	1.45E-01	2.61E-02	1.93E-02	3.31E-03
GWP, IPCC $_{BIOGENIC}$ / kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$ / kg CO_2 eq	1.53E-01	2.61E-02	1.18E-02	3.31E-03
GWP, TRACI 2.1 $_{TOTAL}$ / kg CO_2 eq	1.43E-01	2.58E-02	1.90E-02	2.93E-03
GWP, TRACI 2.1 $_{BIOGENIC}$ / kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$ / kg CO_2 eq	1.50E-01	2.58E-02	1.15E-02	2.93E-03
Ozone depletion / kg CFC-11 eq	2.11E-09	3.70E-10	1.61E-10	1.06E-11
Acidification / kg SO_2 eq	4.91E-04	6.36E-05	3.79E-05	2.49E-06
Eutrophication / kg N eq	6.20E-05	4.32E-06	5.34E-06	6.11E-07
Human health damage				
Impact category / Unit				
Smog / kg O_3 eq	6.55E-03	1.63E-03	1.03E-02	6.97E-05
Respiratory effects / kg $PM_{2.5}$ eq	7.43E-05	8.76E-06	5.89E-06	3.60E-07
Additional environmental information				

Impact category	Unit				
Carcinogenics	CTU_h	8.51E-10	1.65E-11	5.66E-11	2.50E-11
Non-carcinogenics	CTU_h	9.22E-09	3.18E-09	7.83E-10	1.76E-09
Ecotoxicity	CTU_e	8.65E-02	6.48E-02	5.12E-03	2.71E-03
Fossil fuel depletion	MJ surplus	3.06E-01	4.90E-02	2.77E-02	1.18E-03

Life cycle impact results per functional unit (York, PA)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE

Ecological damage

Impact category	Unit				
GWP, IPCC $_{TOTAL}$	kg CO_2 eq	1.77E-01	2.24E-02	1.93E-02	3.31E-03
GWP, IPCC $_{BIOGENIC}$	kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$	kg CO_2 eq	1.84E-01	2.24E-02	1.18E-02	3.31E-03
GWP, TRACI 2.1 $_{TOTAL}$	kg CO_2 eq	1.74E-01	2.21E-02	1.90E-02	2.93E-03
GWP, TRACI 2.1 $_{BIOGENIC}$	kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$	kg CO_2 eq	1.81E-01	2.21E-02	1.15E-02	2.93E-03
Ozone depletion	kg CFC-11 eq	2.85E-09	3.17E-10	1.61E-10	1.06E-11
Acidification	kg SO_2 eq	5.85E-04	5.45E-05	3.79E-05	2.49E-06
Eutrophication	kg N eq	7.03E-05	3.70E-06	5.34E-06	6.11E-07

Human health damage

Impact category	Unit				
Smog	kg O_3 eq	9.11E-03	1.40E-03	1.03E-02	6.97E-05
Respiratory effects	kg $PM_{2.5}$ eq	9.13E-05	7.51E-06	5.89E-06	3.60E-07

Additional environmental information

Impact category	Unit				
Carcinogenics	CTU_h	8.67E-10	1.41E-11	5.66E-11	2.50E-11
Non-carcinogenics	CTU_h	1.40E-08	2.73E-09	7.83E-10	1.76E-09
Ecotoxicity	CTU_e	2.05E-01	5.55E-02	5.12E-03	2.71E-03
Fossil fuel depletion	MJ surplus	3.86E-01	4.20E-02	2.77E-02	1.18E-03

Life cycle impact results per functional unit (Milton, Ontario, Canada)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE

Ecological damage

Impact category	Unit				
GWP, IPCC $_{TOTAL}$	kg CO_2 eq	1.37E-01	4.27E-02	1.93E-02	3.31E-03
GWP, IPCC $_{BIOGENIC}$	kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$	kg CO_2 eq	1.44E-01	4.27E-02	1.18E-02	3.31E-03
GWP, TRACI 2.1 $_{TOTAL}$	kg CO_2 eq	1.34E-01	4.22E-02	1.90E-02	2.93E-03
GWP, TRACI 2.1 $_{BIOGENIC}$	kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$	kg CO_2 eq	1.42E-01	4.22E-02	1.15E-02	2.93E-03
Ozone depletion	kg CFC-11 eq	2.24E-09	6.07E-10	1.61E-10	1.06E-11
Acidification	kg SO_2 eq	4.65E-04	1.04E-04	3.79E-05	2.49E-06
Eutrophication	kg N eq	6.12E-05	7.08E-06	5.34E-06	6.11E-07

Human health damage

Impact category	Unit				
Smog	kg O_3 eq	6.64E-03	2.68E-03	1.03E-02	6.97E-05
Respiratory effects	kg $PM_{2.5}$ eq	7.69E-05	1.44E-05	5.89E-06	3.60E-07

Additional environmental information

Impact category	Unit				
Carcinogenics	CTU_h	8.28E-10	2.70E-11	5.66E-11	2.50E-11
Non-carcinogenics	CTU_h	9.50E-09	5.21E-09	7.83E-10	1.76E-09
Ecotoxicity	CTU_e	1.14E-01	1.06E-01	5.12E-03	2.71E-03
Fossil fuel depletion	MJ surplus	3.14E-01	8.04E-02	2.77E-02	1.18E-03

Life cycle impact results per functional unit (Sherwood, Alberta, Canada)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE

Ecological damage

Impact category	Unit				
GWP, IPCC $_{TOTAL}$	kg CO_2 eq	2.09E-01	2.16E-02	1.93E-02	3.31E-03
GWP, IPCC $_{BIOGENIC}$	kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$	kg CO_2 eq	2.17E-01	2.16E-02	1.18E-02	3.31E-03
GWP, TRACI 2.1 $_{TOTAL}$	kg CO_2 eq	2.06E-01	2.13E-02	1.90E-02	3.40E-03
GWP, TRACI 2.1 $_{BIOGENIC}$	kg CO_2 eq	-7.49E-03	0.00E+00	7.49E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$	kg CO_2 eq	2.13E-01	2.13E-02	1.15E-02	3.40E-03
Ozone depletion	kg CFC-11 eq	2.97E-09	3.06E-10	1.61E-10	1.84E-11
Acidification	kg SO_2 eq	6.97E-04	5.26E-05	3.79E-05	4.79E-06
Eutrophication	kg N eq	8.01E-05	3.57E-06	5.34E-06	7.56E-07

Human health damage

Impact category	Unit				
Smog	kg O_3 eq	1.01E-02	1.35E-03	1.03E-02	1.40E-04
Respiratory effects	kg $PM_{2.5}$ eq	9.73E-05	7.24E-06	5.89E-06	6.47E-07

Additional environmental information

Impact category	Unit				
Carcinogenics	CTU_h	9.12E-10	1.36E-11	5.66E-11	2.51E-11
Non-carcinogenics	CTU_h	1.49E-08	2.63E-09	7.83E-10	1.78E-09
Ecotoxicity	CTU_e	2.06E-01	5.36E-02	5.12E-03	2.77E-03
Fossil fuel depletion	MJ surplus	4.26E-01	4.06E-02	2.77E-02	2.06E-03

References

LCA Background Report
LCA of W. R. MEADOWS Concrete curing products, 2025. Developed using the IPCC Fifth Assessment Report (AR5) 100-year time, TRACI v2.1, CML, and Cumulative Energy Demand (LHV) impact assessment methodologies, SimaPro Analyst 9.6 software, and ecoinvent v3.10 and US-EI 2.2 databases.

ISO 14025:2006 Environmental labels and declarations — Type III environmental declarations — Principles and procedures

ISO 21930:2017, Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services

NSF Product Category Rule for Environmental Product Declarations: Architectural Coatings: NAICS 325510, version 2 extended through June 30, 2025.

Download PDF SM Transparency Report/ EPD

SM Transparency Reports (TR) are ISO 14025 Type III environmental declarations (EPD) that enable purchasers and users to compare the potential environmental performance of products on a life cycle basis. Environmental declarations from different programs (ISO 14025) may not be comparable. Comparison of the environmental performance using EPD information shall consider all relevant information modules over the full life cycle of the products within the building. This PCR allows EPD comparability only when the same functional requirements between products are ensured and the requirements of ISO 21930:2017 §5.5 are met. It should be noted that different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared. LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks. These six impact categories are globally deemed mature enough to be included in Type III environmental declarations. Other categories are being developed and defined and LCA should continue making advances in their development. However, the EPD users shall not use additional measures for comparative purposes. Comparison of the environmental performance of structural and architectural wood products using EPD information shall be based on the product's use and impacts at the construction works level, and therefore EPDs may not be used for comparability purposes when not considering the construction works energy use phase as instructed under this PCR. Full conformance with the PCR for structural and architectural wood products allows EPD comparability only when all stages of a life cycle have been considered, when they comply with all referenced standards, use the same sub-category Part B PCR, and use equivalent scenarios with respect to construction works. However, variations and deviations are possible. Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.

Rating systems

The intent is to reward project teams for selecting products from manufacturers who have verified improved life-cycle environmental performance.

LEED BD+C: New Construction | v4 - LEED v4
Building product disclosure and optimization

Environmental product declarations

- ○ Industry-wide (generic) EPD — ½ product
- ✓ Product-specific Type III EPD — 1 product

LEED BD+C: New Construction | v4.1 - LEED v4.1
Building product disclosure and optimization

Environmental product declarations

- ○ Industry-wide (generic) EPD — 1 product
- ✓ Product-specific Type III EPD — 1.5 products

Collaborative for High Performance Schools National Criteria
MW C5.1 – Environmental Product Declarations

- ✓ Third-party certified type III EPD — 2 points

Green Globes for New Construction and Sustainable Interiors
Materials and resources

- ✓ NC 3.5.1.2 Path B: Prescriptive Path for Building Core and Shell
- ✓ NC 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs

BREEAM New Construction 2018
Mat 02 - Environmental impacts from construction products

Environmental Product Declarations (EPD)

- ○ Industry-average EPD — .5 points
- ○ Multi-product specific EPD — .75 points
- ✓ Product-specific EPD — 1 point

SM Transparency Report (EPD)™

EPD	LCA
3rd-party reviewed	✓
	Transparency Report (EPD)
3rd-party verified	✓

Validity: 05/28/25 – 05/28/30
SM-WRM – 05282025 – 009

This environmental product declaration (EPD) was externally verified by Lindita Bushi, PhD, Senior Research Associate at Athena, according to ISO 21930:2017; NSF PCR for Architectural Coatings; and ISO 14025:2006.

Athena Sustainable Materials Institute
600 Grings Hill Road
Sinking Spring, PA 19608
https://www.athenasmi.org/
(610) 985-0933

SUMMARY
Reference PCR
NSF PCR for Architectural Coatings

Regions; system boundaries
North America; Cradle-to-grave

Functional unit: 1 m^2

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2

Public LCA:
LCA of W. R. MEADOWS VOCOMP and MEL-PRIME

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Lindita Bushi, PhD, Senior Research Associate at Athena.

W.R. MEADOWS, Inc.
300 Industrial Drive
P.O. Box 338
Hampshire, IL 60140-0338
wrmeadows.com
(800) 342-5976

Contact us

© 2025 | The SM Transparency Report [EPD]™ Program is operated by Sustainable Minds® (www.sustainableminds.com) | Privacy policy

LCA results & interpretation

VOCOMP®

VOCOMP®-20 | VOCOMP®-25 | VOCOMP®-30 | EPD additional content

Scope and summary

○ Cradle to gate ○ Cradle to gate with options ◉ Cradle to grave

Application

VOCOMP®-25 is a water-based acrylic concrete curing and sealing compound is formulated with 25% solids using acrylic polymers in a water-based carrier. VOC compliant.

Functional unit

According to the PCR, the functional unit is: 1 m^2 of covered and protected substrate for a period of 60 years (the assumed average lifetime of a building).

W. R. MEADOWS' VOCOMP and MEL-PRIME products fall within the general category of curing, sealing, and priming coatings. The product life for coatings is typically defined by market lifetime (10 years) and technical life (either 5, 10, or 20 years), depending on performance in durability tests as outlined in the PCR. Since VOCOMP® are single-use products that do not require reapplication, the functional unit considers only the initial application, with no additional reapplications over the 60-year lifespan of a building. The results in this report are presented per functional unit.

Density: 8.59 lb/gal

Coverage: 9.82 m^2/L

Reference flow: 0.10 kg/functional unit

Manufacturing data

Reporting period: January 2023 – December 2023
Location: Cartersville, GA, USA; Ft Worth, TX, USA; Goodyear, AZ, USA; Hampshire, IL, USA; York, PA, USA; Benicia, CA, USA; Milton, Ontario, CAN; Sherwood Park, Alberta, CAN

Material composition by wt%

MATERIAL	WT%
Polymer emulsion	75-84%
Solvent	<5%
Plasticizer	<5%
Additives	<3%
Packaging, plastic	<1%
Packaging, steel drum	<1%
Packaging, wood pallet	<1%
Packaging, stretch film	<1%

Average plant impacts by life cycle stage [mPts/func unit]

LIFE CYCLE STAGE	MPTS/FUNC. UNIT
Product stage	1.15E-02
Design & construction	1.65E-03
Use & maintenance	1.65E-03
End of life	2.34E-04
Total impacts = 1.50E-02 mPts	

What's causing the greatest impacts

All life cycle stages

The product stage [1-1 - 1-3] dominates the results for all impact categories. The raw material manufacturing stage contributes the most to the overall impact across all locations. Coating manufacturing (1-3) and transportation stages (1-2, 2-1, and 2-2) also have significant contributions, but to a lesser extent. End-of-life management and emissions from drying show small but nonzero contributions, which reflect the packaging waste and disposal-related emissions.

Production Stage

Polymers and film-forming agents are the dominant contributors to environmental impacts in the production stage. The synthetic polymers serve as the primary functional components of the curing compound. It generates for the majority of the global warming potential and fossil fuel depletion because of their petrochemical origins and energy intensive synthesis. The blending and mixing processes used to incorporate these polymers, along with associated chemical stabilizers, contribute significantly to smog formation and ozone depletion impacts. Because the VOCOMP®-25 product is produced domestically and distributed regionally, long-distance transport impacts are minimized. In terms of manufacturing, differences in electricity grids and natural gas sourcing across plants results in various energy-related impacts.

Design & Construction Stage

Transportation to the installation site via truck is the primary contributor in the construction stage. Although this stage contributes less than 10% of total impact in most categories, regional differences in transport distances and logistics create slight variation. For instance, Cartersville and Sherwood show slightly higher construction-stage GWP and smog emissions than Hampshire or Milton. Still, these impacts remain secondary compared to production.

Use & Maintenance Stage

Use-stage impacts are minimal across all plants. The water or energy consumption during use is not accounted for or because VOCOMPs are single-use products that do not require reapplication. The curing product remains inert during its service life, with no substantial emissions or operational burden.

End-of-life Stage

Overall, the end-of-life stage plays a limited role in the environmental profile of VOCOMP®-25, with most impacts confined to background waste treatment processes. At end-of-life, VOCOMP®-25 remains adhered to concrete surfaces and is not designed for removal before demolition. The dominant impacts in this stage is from the landfilling of concrete debris coated with residual product, where trace emissions may be released during material fragmentation or disposal handling. These contributions appear in global warming, acidification, and ecotoxicity categories but remain below 5% of the total life cycle impact. Packaging materials, primarily plastic pails or metal drums, also contribute minor burdens during disposal, particularly in fossil fuel depletion and respiratory effect categories.

How we're making it greener

- W. R. MEADOWS utilizes OEE (Overall Equipment Effectiveness) to optimize manufacturing processes and reduce energy consumption.
- OEE identifies inefficiencies and wasted energy. By monitoring equipment performance, it uncovers downtime, slow speeds, and quality defects.
- Energy-saving improvements through OEE: Meadows has achieved streamlined processes, better scheduling, reduced machine wear, and lower energy costs.
- Reduction in scrap and waste: OEE insights help identify performance issues, reducing defects, delays, and material waste while enhancing product quality.
- Supports sustainability and environmental goals: By lowering energy use and cutting carbon footprints, OEE fosters more sustainable manufacturing practices.

See how we make it greener

LCA results

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Information modules: Included (X) | Excluded (MND)*	**(X) 1-1 Raw materials manufacturing**	**(X) 2-1 Transportation to distribution center**	**(X) 3-1 Coating application**	**(X) 4-1 Transportation to disposal site**
	(X) 1-2 Transportation of raw materials to plants	**(X) 2-2 Transportation to point of sale/ Installation**	**(X) 3-2 Emission from drying**	**(X) 4-2 End-of-life management**
	(X) 1-3 Coating manufacturing	**(X) 2-3 Transportation to application site**	**(X) 3-3 Necessary maintenance and repair**	

SM Single Score

Learn about SM Single Score results

Impacts per functional unit	1.15E-02 mPts	1.65E-03 mPts	1.65E-03 mPts	2.34E-04 mPts
Materials or processes contributing >20% to total impacts in each life cycle stage	Polymer resins and solvent components, along with manufacturing processes such as blending, emulsifying, and packaging.	Transportation of the product to the installation site.	Emission from drying.	Transport to waste facilities, background emissions from landfilling of coated concrete, and disposal of packaging waste.

Life cycle impact results per functional unit (Benicia, CA)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{TOTAL}$ / kg CO_2 eq	3.07E-01	2.33E-02	2.40E-02	4.03E-03
GWP, IPCC $_{BIOGENIC}$ / kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$ / kg CO_2 eq	3.12E-01	2.33E-02	1.84E-02	4.03E-03
GWP, TRACI 2.1 $_{TOTAL}$ / kg CO_2 eq	3.00E-01	2.31E-02	2.35E-02	3.72E-03
GWP, TRACI 2.1 $_{BIOGENIC}$ / kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$ / kg CO_2 eq	3.05E-01	2.31E-02	1.79E-02	3.72E-03
Ozone depletion / kg CFC-11 eq	5.27E-09	3.32E-10	2.52E-10	3.32E-11
Acidification / kg SO_2 eq	8.99E-04	5.70E-05	5.90E-05	9.32E-06
Eutrophication / kg N eq	9.11E-05	3.88E-06	7.19E-06	9.30E-07
Human health damage				
Impact category / Unit				
Smog / kg O_3 eq	1.16E-02	1.46E-03	2.06E-02	2.81E-04
Respiratory effects / kg $PM_{2.5}$ eq	1.18E-04	7.86E-06	9.11E-06	1.20E-06
Additional environmental information				
Impact category / Unit				
Carcinogenics / CTU_h	9.86E-10	1.48E-11	8.60E-11	1.90E-11
Non-carcinogenics / CTU_h	1.58E-08	2.85E-09	1.11E-09	1.39E-09
Ecotoxicity / CTU_e	1.52E-01	5.81E-02	7.79E-03	2.22E-03
Fossil fuel depletion / MJ surplus	6.88E-01	4.40E-02	4.43E-02	3.75E-03

Life cycle impact results per functional unit (Cartersville, GA)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{TOTAL}$ / kg CO_2 eq	1.90E-01	1.56E-02	2.40E-02	4.03E-03
GWP, IPCC $_{BIOGENIC}$ / kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$ / kg CO_2 eq	1.95E-01	1.56E-02	1.84E-02	4.03E-03
GWP, TRACI 2.1 $_{TOTAL}$ / kg CO_2 eq	1.85E-01	1.55E-02	2.35E-02	3.72E-03
GWP, TRACI 2.1 $_{BIOGENIC}$ / kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$ / kg CO_2 eq	1.90E-01	1.55E-02	1.79E-02	3.72E-03
Ozone depletion / kg CFC-11 eq	2.66E-09	2.22E-10	2.52E-10	3.32E-11
Acidification / kg SO_2 eq	6.17E-04	3.82E-05	5.90E-05	9.32E-06
Eutrophication / kg N eq	7.43E-05	2.59E-06	7.19E-06	9.30E-07
Human health damage				
Impact category / Unit				
Smog / kg O_3 eq	8.19E-03	9.79E-04	2.06E-02	2.81E-04
Respiratory effects / kg $PM_{2.5}$ eq	9.53E-05	5.26E-06	9.11E-06	1.20E-06
Additional environmental information				
Impact category / Unit				
Carcinogenics / CTU_h	8.78E-10	9.88E-12	8.60E-11	1.90E-11
Non-carcinogenics / CTU_h	1.10E-08	1.91E-09	1.11E-09	1.39E-09
Ecotoxicity / CTU_e	9.00E-02	3.89E-02	7.79E-03	2.22E-03
Fossil fuel depletion / MJ surplus	4.62E-01	2.94E-02	4.43E-02	3.75E-03

Life cycle impact results per functional unit (Forth Worth, TX)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{TOTAL}$ / kg CO_2 eq	2.05E-01	1.88E-02	2.40E-02	4.03E-03
GWP, IPCC $_{BIOGENIC}$ / kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$ / kg CO_2 eq	2.09E-01	1.88E-02	1.84E-02	4.03E-03
GWP, TRACI 2.1 $_{TOTAL}$ / kg CO_2 eq	2.00E-01	1.86E-02	2.35E-02	3.72E-03
GWP, TRACI 2.1 $_{BIOGENIC}$ / kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$ / kg CO_2 eq	2.05E-01	1.86E-02	1.79E-02	3.72E-03
Ozone depletion / kg CFC-11 eq	2.89E-09	2.67E-10	2.52E-10	3.32E-11
Acidification / kg SO_2 eq	6.56E-04	4.59E-05	5.90E-05	9.32E-06
Eutrophication / kg N eq	7.65E-05	3.12E-06	7.19E-06	9.30E-07
Human health damage				
Impact category / Unit				
Smog / kg O_3 eq	9.07E-03	1.18E-03	2.06E-02	2.81E-04
Respiratory effects / kg $PM_{2.5}$ eq	9.88E-05	6.32E-06	9.11E-06	1.20E-06
Additional environmental information				
Impact category / Unit				
Carcinogenics / CTU_h	8.88E-10	1.19E-11	8.60E-11	1.90E-11
Non-carcinogenics / CTU_h	1.26E-08	2.29E-09	1.11E-09	1.39E-09
Ecotoxicity / CTU_e	1.23E-01	4.67E-02	7.79E-03	2.22E-03
Fossil fuel depletion / MJ surplus	4.89E-01	3.54E-02	4.43E-02	3.75E-03

Life cycle impact results per functional unit (Goodyear, AZ)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{TOTAL}$ / kg CO_2 eq	2.23E-01	2.07E-02	2.40E-02	4.03E-03
GWP, IPCC $_{BIOGENIC}$ / kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$ / kg CO_2 eq	2.28E-01	2.07E-02	1.84E-02	4.03E-03
GWP, TRACI 2.1 $_{TOTAL}$ / kg CO_2 eq	2.17E-01	2.05E-02	2.35E-02	3.72E-03
GWP, TRACI 2.1 $_{BIOGENIC}$ / kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$ / kg CO_2 eq	2.22E-01	2.05E-02	1.79E-02	3.72E-03
Ozone depletion / kg CFC-11 eq	3.50E-09	2.95E-10	2.52E-10	3.32E-11
Acidification / kg SO_2 eq	7.07E-04	5.07E-05	5.90E-05	9.32E-06
Eutrophication / kg N eq	8.07E-05	3.44E-06	7.19E-06	9.30E-07
Human health damage				
Impact category / Unit				
Smog / kg O_3 eq	9.64E-03	1.30E-03	2.06E-02	2.81E-04
Respiratory effects / kg $PM_{2.5}$ eq	1.02E-04	6.98E-06	9.11E-06	1.20E-06
Additional environmental information				
Impact category / Unit				
Carcinogenics / CTU_h	9.12E-10	1.31E-11	8.60E-11	1.90E-11
Non-carcinogenics / CTU_h	1.32E-08	2.54E-09	1.11E-09	1.39E-09
Ecotoxicity / CTU_e	1.30E-01	5.16E-02	7.79E-03	2.22E-03
Fossil fuel depletion / MJ surplus	5.16E-01	3.91E-02	4.43E-02	3.75E-03

Life cycle impact results per functional unit (Hampshire, IL)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{TOTAL}$ / kg CO_2 eq	1.94E-01	2.13E-02	2.40E-02	4.03E-03
GWP, IPCC $_{BIOGENIC}$ / kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$ / kg CO_2 eq	1.98E-01	2.13E-02	1.84E-02	4.03E-03
GWP, TRACI 2.1 $_{TOTAL}$ / kg CO_2 eq	1.89E-01	2.11E-02	2.35E-02	3.72E-03
GWP, TRACI 2.1 $_{BIOGENIC}$ / kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$ / kg CO_2 eq	1.94E-01	2.11E-02	1.79E-02	3.72E-03
Ozone depletion / kg CFC-11 eq	2.91E-09	3.03E-10	2.52E-10	3.32E-11
Acidification / kg SO_2 eq	6.39E-04	5.22E-05	5.90E-05	9.32E-06
Eutrophication / kg N eq	7.57E-05	3.54E-06	7.19E-06	9.30E-07
Human health damage				
Impact category / Unit				
Smog / kg O_3 eq	8.36E-03	1.34E-03	2.06E-02	2.81E-04
Respiratory effects / kg $PM_{2.5}$ eq	9.52E-05	7.18E-06	9.11E-06	1.20E-06
Additional environmental information				

Impact category	Unit				
Carcinogenics	CTU_h	8.88E-10	1.35E-11	8.60E-11	1.90E-11
Non-carcinogenics	CTU_h	1.11E-08	2.61E-09	1.11E-09	1.39E-09
Ecotoxicity	CTU_e	9.03E-02	5.31E-02	7.79E-03	2.22E-03
Fossil fuel depletion	MJ surplus	4.64E-01	4.02E-02	4.43E-02	3.75E-03

Life cycle impact results per functional unit (York, PA)

LIFE CYCLE STAGE		PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage					
Impact category	Unit				
GWP, IPCC $_{TOTAL}$	kg CO_2 eq	2.00E-01	1.68E-02	2.40E-02	4.03E-03
GWP, IPCC $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$	kg CO_2 eq	2.05E-01	1.68E-02	1.84E-02	4.03E-03
GWP, TRACI 2.1 $_{TOTAL}$	kg CO_2 eq	1.95E-01	1.67E-02	2.35E-02	3.72E-03
GWP, TRACI 2.1 $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$	kg CO_2 eq	2.00E-01	1.67E-02	1.79E-02	3.72E-03
Ozone depletion	kg CFC-11 eq	3.03E-09	2.39E-10	2.52E-10	3.32E-11
Acidification	kg SO_2 eq	6.56E-04	4.12E-05	5.90E-05	9.32E-06
Eutrophication	kg N eq	7.69E-05	2.80E-06	7.19E-06	9.30E-07
Human health damage					
Impact category	Unit				
Smog	kg O_3 eq	8.72E-03	1.06E-03	2.06E-02	2.81E-04
Respiratory effects	kg $PM_{2.5}$ eq	9.72E-05	5.67E-06	9.11E-06	1.20E-06
Additional environmental information					
Impact category	Unit				
Carcinogenics	CTU_h	8.93E-10	1.07E-11	8.60E-11	1.90E-11
Non-carcinogenics	CTU_h	1.18E-08	2.06E-09	1.11E-09	1.39E-09
Ecotoxicity	CTU_e	1.04E-01	4.19E-02	7.79E-03	2.22E-03
Fossil fuel depletion	MJ surplus	4.75E-01	3.17E-02	4.43E-02	3.75E-03

Life cycle impact results per functional unit (Milton, Ontario, Canada)

LIFE CYCLE STAGE		PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage					
Impact category	Unit				
GWP, IPCC $_{TOTAL}$	kg CO_2 eq	2.04E-01	1.01E-01	2.40E-02	4.03E-03
GWP, IPCC $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$	kg CO_2 eq	2.09E-01	1.01E-01	1.84E-02	4.03E-03
GWP, TRACI 2.1 $_{TOTAL}$	kg CO_2 eq	1.99E-01	1.00E-01	2.35E-02	3.72E-03
GWP, TRACI 2.1 $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$	kg CO_2 eq	2.04E-01	1.00E-01	1.79E-02	3.72E-03
Ozone depletion	kg CFC-11 eq	2.86E-09	1.73E-09	2.52E-10	3.32E-11
Acidification	kg SO_2 eq	6.53E-04	2.19E-04	5.90E-05	9.32E-06
Eutrophication	kg N eq	7.62E-05	1.46E-05	7.19E-06	9.30E-07
Human health damage					
Impact category	Unit				
Smog	kg O_3 eq	9.15E-03	5.27E-03	2.06E-02	2.81E-04
Respiratory effects	kg $PM_{2.5}$ eq	9.92E-05	2.66E-05	9.11E-06	1.20E-06
Additional environmental information					
Impact category	Unit				
Carcinogenics	CTU_h	8.85E-10	5.78E-11	8.60E-11	1.90E-11
Non-carcinogenics	CTU_h	1.28E-08	6.22E-09	1.11E-09	1.39E-09
Ecotoxicity	CTU_e	1.29E-01	1.18E-01	7.79E-03	2.22E-03
Fossil fuel depletion	MJ surplus	4.89E-01	1.85E-01	4.43E-02	3.75E-03

Life cycle impact results per functional unit (Sherwood, Alberta, Canada)

LIFE CYCLE STAGE		PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage					
Impact category	Unit				
GWP, IPCC $_{TOTAL}$	kg CO_2 eq	2.21E-01	2.12E-02	2.40E-02	4.03E-03
GWP, IPCC $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$	kg CO_2 eq	2.26E-01	2.12E-02	1.84E-02	4.03E-03
GWP, TRACI 2.1 $_{TOTAL}$	kg CO_2 eq	2.16E-01	2.10E-02	2.35E-02	3.72E-03
GWP, TRACI 2.1 $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$	kg CO_2 eq	2.21E-01	2.10E-02	1.79E-02	3.72E-03
Ozone depletion	kg CFC-11 eq	3.07E-09	3.02E-10	2.52E-10	3.32E-11
Acidification	kg SO_2 eq	7.34E-04	5.19E-05	5.90E-05	9.32E-06
Eutrophication	kg N eq	8.40E-05	3.53E-06	7.19E-06	9.30E-07
Human health damage					
Impact category	Unit				
Smog	kg O_3 eq	9.27E-03	1.33E-03	2.06E-02	2.81E-04
Respiratory effects	kg $PM_{2.5}$ eq	1.01E-04	7.15E-06	9.11E-06	1.20E-06
Additional environmental information					
Impact category	Unit				
Carcinogenics	CTU_h	9.31E-10	1.34E-11	8.60E-11	1.90E-11
Non-carcinogenics	CTU_h	1.20E-08	2.59E-09	1.11E-09	1.39E-09
Ecotoxicity	CTU_e	9.54E-02	5.29E-02	7.79E-03	2.22E-03
Fossil fuel depletion	MJ surplus	4.98E-01	4.00E-02	4.43E-02	3.75E-03

References

LCA Background Report
LCA of W. R. MEADOWS Concrete curing products, 2025. Developed using the IPCC Fifth Assessment Report (AR5) 100-year time, TRACI v2.1, CML, and Cumulative Energy Demand (LHV) impact assessment methodologies, SimaPro Analyst 9.6 software, and ecoinvent v3.10 and US-EI 2.2 databases.

ISO 14025:2006 Environmental labels and declarations — Type III environmental declarations — Principles and procedures

ISO 21930:2017, Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services

NSF Product Category Rule for Environmental Product Declarations: Architectural Coatings: NAICS 325510, version 2 extended through June 30, 2025.

Download PDF SM Transparency Report/ EPD

SM Transparency Reports (TR) are ISO 14025 Type III environmental declarations (EPD) that enable purchasers and users to compare the potential environmental performance of products on a life cycle basis. Environmental declarations from different programs (ISO 14025) may not be comparable. Comparison of the environmental performance using EPD information shall consider all relevant information modules over the full life cycle of the products within the building. This PCR allows EPD comparability only when the same functional requirements between products are ensured and the requirements of ISO 21930:2017 §5.5 are met. It should be noted that different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared. LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks. These six impact categories are globally deemed mature enough to be included in Type III environmental declarations. Other categories are being developed and defined and LCA should continue making advances in their development. However, the EPD users shall not use additional measures for comparative purposes. Comparison of the environmental performance of structural and architectural wood products using EPD information shall be based on the product's use and impacts at the construction works level, and therefore EPDs may not be used for comparability purposes when not considering the construction works energy use phase as instructed under this PCR. Full conformance with the PCR for structural and architectural wood products allows EPD comparability only when all stages of a life cycle have been considered, when they comply with all referenced standards, use the same sub-category Part B PCR, and use equivalent scenarios with respect to construction works. However, variations and deviations are possible. Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.

Rating systems

The intent is to reward project teams for selecting products from manufacturers who have verified improved life-cycle environmental performance.

LEED BD+C: New Construction | v4 - LEED v4
Building product disclosure and optimization

Environmental product declarations

- ○ Industry-wide (generic) EPD — ½ product
- ✓ Product-specific Type III EPD — 1 product

LEED BD+C: New Construction | v4.1 - LEED v4.1
Building product disclosure and optimization

Environmental product declarations

- ○ Industry-wide (generic) EPD — 1 product
- ✓ Product-specific Type III EPD — 1.5 products

Collaborative for High Performance Schools National Criteria
MW C5.1 – Environmental Product Declarations

- ✓ Third-party certified type III EPD — 2 points

Green Globes for New Construction and Sustainable Interiors
Materials and resources

- ✓ NC 3.5.1.2 Path B: Prescriptive Path for Building Core and Shell
- ✓ NC 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs

BREEAM New Construction 2018
Mat 02 - Environmental impacts from construction products

Environmental Product Declarations (EPD)

- ○ Industry-average EPD — .5 points
- ○ Multi-product specific EPD — .75 points
- ✓ Product-specific EPD — 1 point

SM Transparency Report (EPD)™

EPD	LCA
3rd-party reviewed	✓
	Transparency Report (EPD)
3rd-party verified	✓

Validity: 05/28/25 – 05/28/30
SM-WRM – 05282025 – 009

This environmental product declaration (EPD) was externally verified by Lindita Bushi, PhD, Senior Research Associate at Athena, according to ISO 21930:2017; NSF PCR for Architectural Coatings; and ISO 14025:2006.

Athena Sustainable Materials Institute
600 Grings Hill Road
Sinking Spring, PA 19608
https://www.athenasmi.org/
(610) 985-0933

SUMMARY

Reference PCR
NSF PCR for Architectural Coatings

Regions; system boundaries
North America; Cradle-to-grave

Functional unit: 1 m^2

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2

Public LCA:
LCA of W. R. MEADOWS VOCOMP and MEL-PRIME

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Lindita Bushi, PhD, Senior Research Associate at Athena.

W.R. MEADOWS, Inc.
300 Industrial Drive
P.O. Box 338
Hampshire, IL 60140-0338
wrmeadows.com
(800) 342-5976

Contact us

© 2025 | The SM Transparency Report [EPD]™ Program is operated by Sustainable Minds® (www.sustainableminds.com) | Privacy policy

LCA results & interpretation

VOCOMP®

VOCOMP®-20 | VOCOMP®-25 | VOCOMP®-30 | EPD additional content

Scope and summary

○ Cradle to gate ○ Cradle to gate with options ☑ Cradle to grave

Application

VOCOMP®-30 is a water-based acrylic concrete curing and sealing compound is formulated with 30% solids using acrylic polymers in a water-based carrier. VOC compliant.

Functional unit

According to the PCR, the functional unit is: 1 m^2 of covered and protected substrate for a period of 60 years (the assumed average lifetime of a building).

W. R. MEADOWS' VOCOMP and MEL-PRIME products fall within the general category of curing, sealing, and priming coatings. The product life for coatings is typically defined by market lifetime (5-years) and technical life (either 5, 10, or 20 years), depending on performance in durability tests as outlined in the PCR. Since VOCOMPs are single-use products that do not require reapplication, the functional unit considers only the initial application, with no additional reapplications over the 60-year lifespan of a building. The results in this report are presented per functional unit.

Density: 8.62 lb/gal

Coverage: 9.82 m^2/L

Reference flow: 0.11 kg/functional unit

Manufacturing data

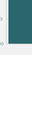
Reporting period: January 2023 – December 2023

Location: Cartersville, GA, USA; Ft Worth, TX, USA; Goodyear, AZ, USA; Hampshire, IL, USA; York, PA, USA; Benicia, CA, USA; Milton, Ontario, CAN; Sherwood Park, Alberta, CAN

Material composition by wt%

MATERIAL	WT%
Polymer emulsion	75-89%
Solvent	<5%
Additives	<3%
Packaging, plastic	<1%
Packaging, steel drum	<1%
Packaging, wood pallet	<1%
Packaging, stretch film	<1%

Average plant impacts by life cycle stage [mPts/func unit]



LIFE CYCLE STAGE	MPTS/FUNC. UNIT
Product stage	1.77E-02
Design & construction	1.54E-03
Use & maintenance	3.20E-03
End of life	2.34E-04
Total impacts = 2.26E-02 mPts	

What's causing the greatest impacts

All life cycle stages

The product stage [1-1 · 1-3] dominates the results for all impact categories. The raw material manufacturing stage contributes the most to the overall impact across all locations. Coating manufacturing (1-3) and transportation stages (1-2, 2-1, and 2-2) also have significant contributions, but to a lesser extent. End-of-life management and emissions from drying show small but nonzero contributions, which reflect the packaging waste and disposal-related emissions.

Production Stage

Polymers and film-forming agents are the dominant contributors to environmental impacts in the production stage. The synthetic polymers serve as the primary functional components of the curing compound. It generates for the majority of the global warming potential and fossil fuel depletion because of their petrochemical origins and energy intensive synthesis. The blending and mixing processes used to incorporate these polymers, along with associated chemical stabilizers, contribute significantly to smog formation and ozone depletion impacts. Because the VOCOMP 30 product is produced domestically and distributed regionally, long-distance transport impacts are minimized. In terms of manufacturing, differences in electricity grids and natural gas sourcing across plants results in various energy-related impacts.

Design & Construction Stage

Transportation to the installation site via truck is the primary contributor in the construction stage. Although this stage contributes less than 10% of total impact in most categories, regional differences in transport distances and logistics create slight variation. For instance, Cartersville and Sherwood show slightly higher construction stage GWP and smog emissions than Hampshire or Milton. Still, these impacts remain secondary compared to production.

Use & Maintenance Stage

Use-stage impacts are minimal across all plants. The water or energy consumption during use is not accounted for or because VOCOMPs are single-use products that do not require reapplication. The curing product remains inert during its service life, with no substantial emissions or operational burden.

End-of-life Stage

Overall, the end-of-life stage plays a limited role in the environmental profile of VOCOMP 30, with most impacts confined to background waste treatment processes. At end-of-life, VOCOMP 30 remains adhered to concrete surfaces and is not designed for removal before demolition. The dominant impacts in this stage is from the landfilling of concrete debris coated with residual product, where trace emissions may be released during material fragmentation or disposal handling. These contributions appear in global warming, acidification, and ecotoxicity categories but remain below 5% of the total life cycle impact. Packaging materials, primarily plastic pails or metal drums, also contribute minor burdens during disposal, particularly in fossil fuel depletion and respiratory effect categories.

How we're making it greener

- W. R. MEADOWS utilizes OEE (Overall Equipment Effectiveness) to optimize manufacturing processes and reduce energy consumption.
- OEE identifies inefficiencies and wasted energy: By monitoring equipment performance, it uncovers downtime, slow speeds, and quality defects.
- Energy-saving improvements through OEE: Meadows has achieved streamlined processes, better scheduling, reduced machine wear, and lower energy costs.
- Reduction in scrap and waste: OEE insights help identify performance issues, downtime, delays, and material waste while enhancing product quality.
- Supports sustainability and environmental goals: By lowering energy use and cutting carbon footprints, OEE fosters more sustainable manufacturing practices.

See how we make it greener

LCA results

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
	(X) 1.1 Raw materials manufacturing	**(X) 2.1 Transportation to distribution center**	**(X) 3.1 Coating application**	**(X) 4.1 Transportation to disposal site**
	(X) 1.2 Transportation of raw materials to plants	**(X) 2.2 Transportation to point of sale/ Installation**	**(X) 3.2 Emission from drying**	**(X) 4.2 End-of-life management**
Information modules: Included (X) / Excluded (MND)[1]	**(X) 1.3 Coating manufacturing**	**(X) 2.3 Transportation to application site**	**(X) 3.3 Necessary maintenance and repair**	

SM Single Score

Learn about SM Single Score results

Impacts per functional unit	1.77E-02 mPts	1.54E-03 mPts	3.20E-03 mPts	2.34E-04 mPts
Materials or processes contributing >20% to total impacts in each life cycle stage	Polymer resins and solvent components, along with manufacturing processes such as blending, emulsifying, and packaging.	Transportation of the product to the installation site.	Emission from drying.	Transport to waste facilities, background emissions from landfilling of coated concrete, and disposal of packaging waste.

Life cycle impact results per functional unit VOCOMP®-30 (Benicia, CA)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{total}$, $kg\ CO_2\ eq$	4.19E-01	2.14E-02	2.82E-02	4.04E-03
GWP, IPCC $_{BIOGENIC}$, $kg\ CO_2\ eq$	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$, $kg\ CO_2\ eq$	4.25E-01	2.14E-02	2.26E-02	4.04E-03
GWP, TRACI 2.1 $_{total}$, $kg\ CO_2\ eq$	4.09E-01	2.12E-02	2.75E-02	3.73E-03
GWP, TRACI 2.1 $_{BIOGENIC}$, $kg\ CO_2\ eq$	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$, $kg\ CO_2\ eq$	4.14E-01	2.12E-02	2.19E-02	3.73E-03
Ozone depletion, $kg\ CFC\text{-}11\ eq$	9.50E-07	3.05E-10	9.45E-08	3.33E-11
Acidification, $kg\ SO_2\ eq$	1.24E-03	5.24E-05	7.05E-05	9.35E-06
Eutrophication, $kg\ N\ eq$	1.31E-04	3.56E-06	9.11E-06	9.31E-07
Human health damage				
Impact category / Unit				
Smog, $kg\ O_3\ eq$	1.63E-02	1.35E-03	5.84E-02	2.82E-04
Respiratory effects, $kg\ PM_{2.5}\ eq$	1.72E-04	7.22E-06	1.09E-05	1.20E-06
Additional environmental information				
Impact category / Unit				
Carcinogenics, CTU_h	1.23E-09	1.36E-11	1.07E-10	1.90E-11
Non-carcinogenics, CTU_h	1.99E-08	2.62E-09	1.75E-09	1.39E-09
Ecotoxicity, CTU_e	1.97E-01	5.34E-02	9.90E-03	2.22E-03
Fossil fuel depletion, $MJ\ surplus$	1.04E+00	4.04E-02	5.21E-02	3.76E-03

Life cycle impact results per functional unit of VOCOMP®-30 (Cartersville, GA)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{total}$, $kg\ CO_2\ eq$	2.98E-01	2.35E-02	2.82E-02	4.04E-03
GWP, IPCC $_{BIOGENIC}$, $kg\ CO_2\ eq$	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$, $kg\ CO_2\ eq$	3.04E-01	2.35E-02	2.26E-02	4.04E-03
GWP, TRACI 2.1 $_{total}$, $kg\ CO_2\ eq$	2.91E-01	2.32E-02	2.75E-02	3.73E-03
GWP, TRACI 2.1 $_{BIOGENIC}$, $kg\ CO_2\ eq$	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$, $kg\ CO_2\ eq$	2.96E-01	2.32E-02	2.19E-02	3.73E-03
Ozone depletion, $kg\ CFC\text{-}11\ eq$	9.48E-07	3.34E-10	9.45E-08	3.33E-11
Acidification, $kg\ SO_2\ eq$	9.57E-04	5.73E-05	7.05E-05	9.35E-06
Eutrophication, $kg\ N\ eq$	1.13E-04	3.90E-06	9.11E-06	9.31E-07
Human health damage				
Impact category / Unit				
Smog, $kg\ O_3\ eq$	1.27E-02	1.47E-03	5.84E-02	2.82E-04
Respiratory effects, $kg\ PM_{2.5}\ eq$	1.48E-04	7.90E-06	1.09E-05	1.20E-06
Additional environmental information				
Impact category / Unit				
Carcinogenics, CTU_h	1.12E-09	1.48E-11	1.07E-10	1.90E-11
Non-carcinogenics, CTU_h	1.46E-08	2.87E-09	1.75E-09	1.39E-09
Ecotoxicity, CTU_e	1.27E-01	5.84E-02	9.90E-03	2.22E-03
Fossil fuel depletion, $MJ\ surplus$	8.07E-01	4.42E-02	5.21E-02	3.76E-03

Life cycle impact results per functional unit of VOCOMP®-30 (Forth Worth, TX)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{total}$, $kg\ CO_2\ eq$	3.14E-01	1.45E-02	2.82E-02	4.04E-03
GWP, IPCC $_{BIOGENIC}$, $kg\ CO_2\ eq$	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$, $kg\ CO_2\ eq$	3.20E-01	1.45E-02	2.26E-02	4.04E-03
GWP, TRACI 2.1 $_{total}$, $kg\ CO_2\ eq$	3.07E-01	1.44E-02	2.75E-02	3.73E-03
GWP, TRACI 2.1 $_{BIOGENIC}$, $kg\ CO_2\ eq$	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$, $kg\ CO_2\ eq$	3.12E-01	1.44E-02	2.19E-02	3.73E-03
Ozone depletion, $kg\ CFC\text{-}11\ eq$	9.48E-07	2.07E-10	9.45E-08	3.33E-11
Acidification, $kg\ SO_2\ eq$	9.96E-04	3.56E-05	7.05E-05	9.35E-06
Eutrophication, $kg\ N\ eq$	1.16E-04	2.42E-06	9.11E-06	9.31E-07
Human health damage				
Impact category / Unit				
Smog, $kg\ O_3\ eq$	1.36E-02	9.13E-04	5.84E-02	2.82E-04
Respiratory effects, $kg\ PM_{2.5}\ eq$	1.53E-04	4.90E-06	1.09E-05	1.20E-06
Additional environmental information				
Impact category / Unit				
Carcinogenics, CTU_h	1.13E-09	9.21E-12	1.07E-10	1.90E-11
Non-carcinogenics, CTU_h	1.65E-08	1.78E-09	1.75E-09	1.39E-09
Ecotoxicity, CTU_e	1.64E-01	3.62E-02	9.90E-03	2.22E-03
Fossil fuel depletion, $MJ\ surplus$	8.36E-01	2.74E-02	5.21E-02	3.76E-03

Life cycle impact results per functional unit of VOCOMP®-30 (Goodyear, AZ)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{total}$, $kg\ CO_2\ eq$	3.31E-01	2.23E-02	2.82E-02	4.04E-03
GWP, IPCC $_{BIOGENIC}$, $kg\ CO_2\ eq$	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$, $kg\ CO_2\ eq$	3.38E-01	2.23E-02	2.26E-02	4.04E-03
GWP, TRACI 2.1 $_{total}$, $kg\ CO_2\ eq$	3.24E-01	2.21E-02	2.75E-02	3.73E-03
GWP, TRACI 2.1 $_{BIOGENIC}$, $kg\ CO_2\ eq$	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$, $kg\ CO_2\ eq$	3.29E-01	2.21E-02	2.19E-02	3.73E-03
Ozone depletion, $kg\ CFC\text{-}11\ eq$	9.49E-07	3.17E-10	9.45E-08	3.33E-11
Acidification, $kg\ SO_2\ eq$	1.05E-03	5.45E-05	7.05E-05	9.35E-06
Eutrophication, $kg\ N\ eq$	1.20E-04	3.78E-06	9.11E-06	9.31E-07
Human health damage				
Impact category / Unit				
Smog, $kg\ O_3\ eq$	1.42E-02	1.40E-03	5.84E-02	2.82E-04
Respiratory effects, $kg\ PM_{2.5}\ eq$	1.56E-04	7.51E-06	1.09E-05	1.20E-06
Additional environmental information				
Impact category / Unit				
Carcinogenics, CTU_h	1.15E-09	1.41E-11	1.07E-10	1.90E-11
Non-carcinogenics, CTU_h	1.78E-08	2.73E-09	1.75E-09	1.39E-09
Ecotoxicity, CTU_e	1.70E-01	5.56E-02	9.90E-03	2.22E-03
Fossil fuel depletion, $MJ\ surplus$	8.62E-01	4.20E-02	5.21E-02	3.76E-03

Life cycle impact results per functional unit of VOCOMP®-30 (Hampshire, IL)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE
Ecological damage				
Impact category / Unit				
GWP, IPCC $_{total}$, $kg\ CO_2\ eq$	3.01E-01	1.95E-02	2.82E-02	4.04E-03
GWP, IPCC $_{BIOGENIC}$, $kg\ CO_2\ eq$	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$, $kg\ CO_2\ eq$	3.07E-01	1.95E-02	2.26E-02	4.04E-03
GWP, TRACI 2.1 $_{total}$, $kg\ CO_2\ eq$	2.94E-01	1.94E-02	2.75E-02	3.73E-03
GWP, TRACI 2.1 $_{BIOGENIC}$, $kg\ CO_2\ eq$	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$, $kg\ CO_2\ eq$	2.99E-01	1.94E-02	2.19E-02	3.73E-03
Ozone depletion, $kg\ CFC\text{-}11\ eq$	9.48E-07	2.78E-10	9.45E-08	3.33E-11
Acidification, $kg\ SO_2\ eq$	9.74E-04	4.78E-05	7.05E-05	9.35E-06
Eutrophication, $kg\ N\ eq$	1.15E-04	3.25E-06	9.11E-06	9.31E-07
Human health damage				
Impact category / Unit				
Smog, $kg\ O_3\ eq$	1.28E-02	1.23E-03	5.84E-02	2.82E-04
Respiratory effects, $kg\ PM_{2.5}\ eq$	1.49E-04	6.58E-06	1.09E-05	1.20E-06
Additional environmental information				

Impact category	Unit				
Carcinogenics	CTU_h	1.13E-09	1.24E-11	1.07E-10	1.90E-11
Non-carcinogenics	CTU_h	1.48E-08	2.39E-09	1.75E-09	1.39E-09
Ecotoxicity	CTU_e	1.27E-01	4.87E-02	9.90E-03	2.22E-03
Fossil fuel depletion	MJ surplus	8.08E-01	3.68E-02	5.21E-02	3.76E-03

Life cycle impact results per functional unit of VOCOMP®-30 (York, PA)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE

Ecological damage

Impact category	Unit				
GWP, IPCC $_{TOTAL}$	kg CO_2 eq	3.08E-01	3.92E-02	2.82E-02	4.04E-03
GWP, IPCC $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$	kg CO_2 eq	3.14E-01	3.92E-02	2.26E-02	4.04E-03
GWP, TRACI 2.1 $_{TOTAL}$	kg CO_2 eq	3.00E-01	3.88E-02	2.75E-02	3.73E-03
GWP, TRACI 2.1 $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$	kg CO_2 eq	3.06E-01	3.88E-02	2.19E-02	3.73E-03
Ozone depletion	kg CFC-11 eq	9.48E-07	5.57E-10	9.45E-08	3.33E-11
Acidification	kg SO_2 eq	9.92E-04	9.57E-05	7.05E-05	9.35E-06
Eutrophication	kg N eq	1.16E-04	6.50E-06	9.11E-06	9.31E-07

Human health damage

Impact category	Unit				
Smog	kg O_3 eq	1.32E-02	2.46E-03	5.84E-02	2.82E-04
Respiratory effects	kg $PM_{2.5}$ eq	1.51E-04	1.32E-05	1.09E-05	1.20E-06

Additional environmental information

Impact category	Unit				
Carcinogenics	CTU_h	1.13E-09	2.47E-11	1.07E-10	1.90E-11
Non-carcinogenics	CTU_h	1.55E-08	4.78E-09	1.75E-09	1.39E-09
Ecotoxicity	CTU_e	1.41E-01	9.75E-02	9.90E-03	2.22E-03
Fossil fuel depletion	MJ surplus	8.20E-01	7.38E-02	5.21E-02	3.76E-03

Life cycle impact results per functional unit of VOCOMP®-30 (Milton, Ontario, Canada)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE

Ecological damage

Impact category	Unit				
GWP, IPCC $_{TOTAL}$	kg CO_2 eq	3.13E-01	6.74E-02	2.82E-02	4.04E-03
GWP, IPCC $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$	kg CO_2 eq	3.20E-01	6.74E-02	2.26E-02	4.04E-03
GWP, TRACI 2.1 $_{TOTAL}$	kg CO_2 eq	3.06E-01	6.66E-02	2.75E-02	3.73E-03
GWP, TRACI 2.1 $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$	kg CO_2 eq	3.11E-01	6.66E-02	2.19E-02	3.73E-03
Ozone depletion	kg CFC-11 eq	9.48E-07	1.17E-09	9.45E-08	3.33E-11
Acidification	kg SO_2 eq	9.92E-04	1.44E-04	7.05E-05	9.35E-06
Eutrophication	kg N eq	1.16E-04	9.53E-06	9.11E-06	9.31E-07

Human health damage

Impact category	Unit				
Smog	kg O_3 eq	1.37E-02	3.44E-03	5.84E-02	2.82E-04
Respiratory effects	kg $PM_{2.5}$ eq	1.53E-04	1.72E-05	1.09E-05	1.20E-06

Additional environmental information

Impact category	Unit				
Carcinogenics	CTU_h	1.13E-09	3.80E-11	1.07E-10	1.90E-11
Non-carcinogenics	CTU_h	1.67E-08	3.77E-09	1.75E-09	1.39E-09
Ecotoxicity	CTU_e	1.69E-01	7.04E-02	9.90E-03	2.22E-03
Fossil fuel depletion	MJ surplus	8.36E-01	1.23E-01	5.21E-02	3.76E-03

Life cycle impact results per functional unit of VOCOMP®-30 (Sherwood, Alberta, Canada)

LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE

Ecological damage

Impact category	Unit				
GWP, IPCC $_{TOTAL}$	kg CO_2 eq	4.10E-01	1.67E-02	2.82E-02	4.04E-03
GWP, IPCC $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, IPCC $_{FOSSIL}$	kg CO_2 eq	4.16E-01	1.67E-02	2.26E-02	4.04E-03
GWP, TRACI 2.1 $_{TOTAL}$	kg CO_2 eq	4.01E-01	1.66E-02	2.75E-02	3.73E-03
GWP, TRACI 2.1 $_{BIOGENIC}$	kg CO_2 eq	-5.60E-03	0.00E+00	5.60E-03	0.00E+00
GWP, TRACI 2.1 $_{FOSSIL}$	kg CO_2 eq	4.07E-01	1.66E-02	2.19E-02	3.73E-03
Ozone depletion	kg CFC-11 eq	9.49E-07	2.38E-10	9.45E-08	3.33E-11
Acidification	kg SO_2 eq	1.27E-03	4.09E-05	7.05E-05	9.35E-06
Eutrophication	kg N eq	1.37E-04	2.78E-06	9.11E-06	9.31E-07

Human health damage

Impact category	Unit				
Smog	kg O_3 eq	1.88E-02	1.05E-03	5.84E-02	2.82E-04
Respiratory effects	kg $PM_{2.5}$ eq	1.81E-04	5.64E-06	1.09E-05	1.20E-06

Additional environmental information

Impact category	Unit				
Carcinogenics	CTU_h	1.22E-09	1.06E-11	1.07E-10	1.90E-11
Non-carcinogenics	CTU_h	2.57E-08	2.05E-09	1.75E-09	1.39E-09
Ecotoxicity	CTU_e	3.35E-01	4.17E-02	9.90E-03	2.22E-03
Fossil fuel depletion	MJ surplus	9.95E-01	3.16E-02	5.21E-02	3.76E-03

References

LCA Background Report
LCA of W. R. MEADOWS Concrete curing products, 2025. Developed using the IPCC Fifth Assessment Report (AR5) 100-year time, TRACI v2.1, CML, and Cumulative Energy Demand (LHV) impact assessment methodologies, SimaPro Analyst 9.6 software, and ecoinvent v3.10 and US-EI 2.2 databases.

ISO 14025:2006 Environmental labels and declarations — Type III environmental declarations — Principles and procedures

ISO 21930:2017, Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services

NSF Product Category Rule for Environmental Product Declarations: Architectural Coatings: NAICS 325510, version 2 extended through June 30, 2025.

Download PDF SM Transparency Report/ EPD

SM Transparency Reports (TR) are ISO 14025 Type III environmental declarations (EPD) that enable purchasers and users to compare the potential environmental performance of products on a life cycle basis. Environmental declarations from different programs (ISO 14025) may not be comparable. Comparison of the environmental performance using EPD information shall consider all relevant information modules over the full life cycle of the products within the building. This PCR allows EPD comparability only when the same functional requirements between products are ensured and the requirements of ISO 21930:2017 §5.5 are met. It should be noted that different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared. LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks. These six impact categories are globally deemed mature enough to be included in Type III environmental declarations. Other categories are being developed and defined and LCA should continue making advances in their development. However, the EPD users shall not use additional measures for comparative purposes. Comparison of the environmental performance of structural and architectural wood products using EPD information shall be based on the product's use and impacts at the construction works level, and therefore EPDs may not be used for comparability purposes when not considering the construction works energy use phase as instructed under this PCR. Full conformance with the PCR for structural and architectural wood products allows EPD comparability only when all stages of a life cycle have been considered, when they comply with all referenced standards, use the same sub-category Part B PCR, and use equivalent scenarios with respect to construction works. However, variations and deviations are possible. Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.

Rating systems

The intent is to reward project teams for selecting products from manufacturers who have verified improved life-cycle environmental performance.

LEED BD+C: New Construction | v4 - LEED v4
Building product disclosure and optimization

Environmental product declarations

- ○ Industry-wide (generic) EPD — ½ product
- ✓ Product-specific Type III EPD — 1 product

LEED BD+C: New Construction | v4.1 - LEED v4.1
Building product disclosure and optimization

Environmental product declarations

- ○ Industry-wide (generic) EPD — 1 product
- ✓ Product-specific Type III EPD — 1.5 products

Collaborative for High Performance Schools National Criteria
MW C5.1 – Environmental Product Declarations

- ✓ Third-party certified type III EPD — 2 points

Green Globes for New Construction and Sustainable Interiors
Materials and resources

- ✓ NC 3.5.1.2 Path B: Prescriptive Path for Building Core and Shell
- ✓ NC 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs

BREEAM New Construction 2018
Mat 02 - Environmental impacts from construction products

Environmental Product Declarations (EPD)

- ○ Industry-average EPD — .5 points
- ○ Multi-product specific EPD — .75 points
- ✓ Product-specific EPD — 1 point

SM Transparency Report (EPD)™

EPD	LCA
3rd-party reviewed	✓
	Transparency Report (EPD)
3rd-party verified	✓

Validity: 05/28/25 – 05/28/30
SM-WRM – 05282025 – 009

This environmental product declaration (EPD) was externally verified by Lindita Bushi, PhD, Senior Research Associate at Athena, according to ISO 21930:2017; NSF PCR for Architectural Coatings; and ISO 14025:2006.

Athena Sustainable Materials Institute
600 Grings Hill Road
Sinking Spring, PA 19608
https://www.athenasmi.org/
(610) 985-0933

SUMMARY

Reference PCR
NSF PCR for Architectural Coatings

Regions; system boundaries
North America; Cradle-to-grave

Functional unit: 1 m^2

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2

Public LCA:
LCA of W. R. MEADOWS VOCOMP and MEL-PRIME

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Lindita Bushi, PhD, Senior Research Associate at Athena.

W.R. MEADOWS, Inc.
300 Industrial Drive
P.O. Box 338
Hampshire, IL 60140-0338
wrmeadows.com
(800) 342-5976

Contact us

© 2025 | The SM Transparency Report [EPD]™ Program is operated by Sustainable Minds® (www.sustainableminds.com) | Privacy policy

EPD additional content

VOCOMP®

VOCOMP®-20 | VOCOMP®-25 | VOCOMP®-30 | EPD additional content

Data

Background This product-specific plant-specific declaration was created by collecting production data from the following plant locations: Cartersville, GA, USA; Ft Worth, TX, USA; Goodyear, AZ, USA; Hampshire, IL, USA; York, PA, USA; Benicia, CA, USA; Milton, Ontario, CAN; Sherwood Park, Alberta, CAN. All unit processes were modeled using primary data. Secondary data sources include those available in the ecoinvent v3.10 and US-EI 2.2 databases.

W. R. MEADOWS' VOCOMP and MEL-PRIME products fall within the general category of curing, sealing, and priming coatings. The product life for coatings is typically defined by market lifetime (5 years) and technical life (either 5, 10, or 20 years), depending on performance in durability tests as outlined in the PCR.

However, no market life was considered in the LCA model for VOCOMP and MEL-PRIME because both products are designed for one-time application only. VOCOMP functions as a curing and sealing compound applied to concrete surfaces immediately after placement, while MEL-PRIME is a primer used to enhance adhesion for subsequent membrane applications. These products do not require reapplication over the lifetime of a structure.

Allocation The W. R. MEADOWS facility produces multiple types of products each year. To allocate electricity and natural gas consumption accurately to each product, total annual energy consumption was distributed based on the proportion of each product's annual production (by mass) relative to the total plant production. This approach assigns manufacturing activities proportionally to each product type.

All associated manufacturing resources and waste flows were allocated using the same approach. There are no co-products produced during their manufacturing processes. The model used in the LCA ensures that the sum of the allocated inputs and outputs of a unit process shall be equal to the inputs and outputs of the unit process before allocation. This means that no double counting or omissions of inputs or outputs through allocation is occurring.

Cut-off criteria for the inclusion of mass and energy flows are 1% of renewable primary resource (energy) usage, 1% nonrenewable primary resource (energy) usage, 1% of the total mass input of that unit process, and 1% of environmental impacts. The total of neglected input flows per module does not exceed 5% of energy usage, mass, and environmental impacts.

The only exceptions to these criteria are substances with hazardous and toxic properties, which must be listed even when the given process unit is under the cut-off criterion 1% of the total mass. No known flows are deliberately excluded from this declaration, and no substances considered to be hazardous or toxic according to the Resource Conservation and Recovery Act (RCRA), Subtitle C are present in the products. Therefore, these criteria have been met. Biogenic carbon is included in reported results.

Data quality assessment

Precision: The precision of the data is considered high. Product engineers provided detailed bills of materials, and facility managers provided utility information for the manufacturing facilities. The raw material transportation distances were calculated based on the raw material manufacturers' addresses, extracted from the relevant SDSs. Proxy datasets were utilized in the LCA model when secondary data were not available.

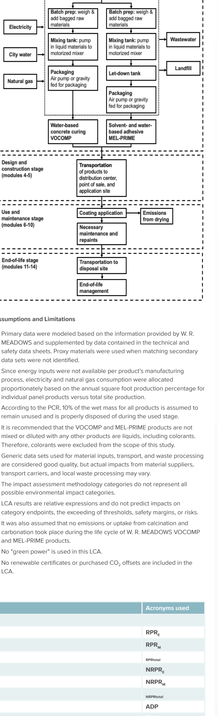
Completeness: The data included is considered complete. The LCA model included all known material and energy flows. As pointed out in that section, no known flows above 1% were excluded and the sum of all excluded flows totals less than 5%, whether evaluated by mass, energy, or potential environmental impact.

Consistency: The consistency of the model is considered high. The bills of materials provided by the product engineers were developed for multiple internal departments use and are maintained regularly.

The LCA practitioner also cross-referenced the installation documents and other relevant information to ensure consistency. Furthermore, modeling assumptions were consistent across the model, with preference given towards SimaPro data, where available.

Scenarios and additional technical information

Flow diagram



Assumptions and Limitations

- Primary data were modeled based on the information provided by W. R. MEADOWS and supplemented by data contained in the technical and safety data sheets. Proxy materials were used when matching secondary data sets were not identified.
- Since energy inputs were not available per product's manufacturing process, electricity and natural gas consumption were allocated proportionately based on the annual square foot production percentage for individual panel products versus total site production.
- According to the PCR, 10% of the wet mass for all products is assumed to remain unused and is properly disposed of during the use stage.
- It is recommended that the VOCOMP and MEL-PRIME products are not mixed or diluted with any other products are liquids, including colorants. Therefore, colorants were excluded from the scope of this study.
- Generic data sets used for material inputs, transport, and waste processing are considered good quality, but actual impacts from material suppliers, transport carriers, and local waste processing may vary.
- The impact assessment methodology categories do not represent all possible environmental impact categories.
- LCA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.
- It was also assumed that no emissions or uptake from calcination and carbonation took place during the life cycle of W. R. MEADOWS VOCOMP and MEL-PRIME products.
- No "green power" is used in this LCA.
- No renewable certificates or purchased CO_2 offsets are included in the LCA.

Resource use and waste flow indicators

Indicators	Acronyms used
Resource use indicators	
Renewable primary energy used as energy carrier (fuel)	RPR_E
Renewable primary resources with energy content used as material	RPR_M
Total use of renewable primary resources with energy content	RPR_{TOT}
Non-renewable primary resources used as an energy carrier (fuel)	$NRPR_E$
Non-renewable primary resources with energy content used as material	$NRPR_M$
Total use of non-renewable primary resources with energy content	$NRPR_{TOT}$
Abiotic Depletion Potential (fossil)	ADP
Secondary materials	SM
Renewable secondary fuels	RSF
Non-renewable secondary fuels	NRSF
Recovered energy	RE
Use of net fresh water resources	FW
Output flows and waste category indicators	
Hazardous waste disposed	HWD
Non-hazardous waste disposed	NHWD
High-level radioactive waste, conditioned, to final repository	HLRW
Intermediate- and low-level radioactive waste, conditioned, to final repository	ILLRW
Components for re-use	CRU
Materials for recycling	MR
Materials for energy recovery	MER
Exported energy	EE
Carbon emissions and removals	
Biogenic Carbon Removal from Product	BCRP
Biogenic Carbon Emission from Product	BCEP
Biogenic Carbon Removal from Packaging	BCRK
Biogenic Carbon Emission from Packaging	BCEK
Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes	CBCEW
Calcination Carbon Emissions	CCE
Carbonation Carbon Removals	CCR
Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes	CWNR

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-20 (Benicia, CA)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.15E-01	1.80E-02	17.3E-01	2.05E-02	1.74E-02	0	1.92E-02	1.31E-04	0	4.88E-05	3.26E-03	**3.67E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.16E-01	1.80E-02	1.80E-01	2.05E-02	1.74E-02	0	1.17E-02	1.31E-04	0	4.88E-05	3.26E-03	**3.67E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.12E-01	1.78E-02	1.69E-01	2.02E-02	1.72E-02	0	1.89E-02	1.31E-04	0	4.82E-05	3.22E-03	**3.58E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.13E-01	1.78E-02	1.75E-01	2.02E-02	1.72E-02	0	1.14E-02	1.16E-04	0	4.82E-05	2.88E-03	**3.58E-01**
Ozone depletion	kg CFC-11 eq	1.61E-09	2.55E-10	4.65E-09	2.91E-10	2.47E-10	0	1.61E-10	3.96E-13	0	7.97E-13	9.85E-12	**7.22E-09**
Acidification	kg SO2 eq	3.77E-04	4.39E-05	4.53E-04	5.00E-05	4.24E-05	0	3.78E-05	9.09E-08	0	2.35E-07	2.26E-07	**1.01E-03**
Eutrophication	kg N eq	5.29E-05	2.99E-06	3.18E-05	3.40E-06	2.88E-06	0	5.32E-06	2.39E-06	0	1.49E-08	5.96E-07	**1.09E-04**
Smog	kg O3 eq	4.89E-03	1.33E-03	4.66E-03	1.28E-03	1.09E-03	0	4.99E-04	9.78E-04	0	7.23E-06	6.25E-05	**2.34E-02**
Respiratory effects	kg PM2.5 eq	5.87E-05	6.05E-06	4.40E-05	6.88E-06	5.84E-06	0	5.88E-06	1.33E-06	0	2.94E-08	3.31E-07	**1.28E-04**
Additional environmental information													
Carcinogenics	CTUh	5.46E-10	1.14E-11	2.24E-10	1.29E-11	1.10E-11	0	5.56E-11	1.00E-12	0	1.03E-14	2.50E-11	**8.87E-10**
Non-carcinogenics	CTUh	6.41E-09	2.19E-09	4.44E-09	2.50E-09	2.12E-09	0	7.12E-10	7.07E-12	0	2.13E-12	1.76E-12	**2.02E-08**
Ecotoxicity	CTUe	4.90E-02	4.47E-02	1.88E-02	5.09E-02	4.32E-02	0	5.01E-03	1.08E-04	0	6.22E-06	2.70E-03	**2.14E-01**
Fossil fuel depletion	MJ surplus	2.77E-01	3.39E-02	4.12E-01	3.85E-02	3.27E-02	0	2.77E-02	4.38E-05	0	9.03E-05	1.09E-03	**8.23E-01**
Resource use indicators													
RPRE	MJ, NCV	6.20E-02	3.9E-04	5.06E-01	4.45E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**5.76E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	6.20E-02	3.9E-04	5.06E-01	4.45E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**5.76E-01**
NRPRE	MJ, NCV	2.46E+00	2.55E-01	3.77E+00	2.90E-01	2.46E-01	0	2.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**7.29E+00**
NRPRM	MJ, NCV	9.95E-01	0	0	0	0	0	9.95E-01	0	0	0	0	**1.09E+00**
NRPRtotal	MJ, NCV	3.46E+00	2.55E-01	3.77E+00	2.90E-01	2.46E-01	0	3.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**8.38E+00**
ADP	kg	0	2.20E+00	2.40E-01	3.06E+00	2.73E-01	2.31E-01	0	2.20E-01	3.17E-04	0	6.77E-03	**6.23E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	2.36E-01	1.89E-03	8.76E-01	2.16E-03	1.83E-03	0	2.36E-02	1.99E-05	0	5.66E-05	4.95E-04	**1.14E+00**
Output flows and waste category indicators													
HWD	kg	2.93E-03	5.57E-05	7.93E-04	6.34E-05	5.38E-05	0	2.93E-04	1.52E-07	0	2.77E-07	3.78E-06	**4.20E-03**
NHWD	kg	1.91E-02	2.21E-04	1.73E-01	2.51E-04	2.13E-04	0	8.84E-03	6.93E-03	0	6.09E-06	1.73E-05	**3.81E-01**
HLRW	kg	2.04E-07	2.94E-09	1.17E-07	3.32E-09	2.82E-09	0	2.05E-08	1.59E-11	0	9.20E-11	3.97E-10	**3.51E-07**
ILLRW	kg	6.91E-07	5.76E-09	4.10E-06	6.51E-09	5.52E-09	0	6.9E-08	3.69E-08	0	2.10E-10	9.18E-08	**4.88E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	4.07E-03	0	0	0	0	0	0	**4.50E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-1.08E-03	0	-7.49E-03	0	0	0	0	0	0	0	0	**-8.57E-03**
BCEK	kg CO2	0	0	1.08E-03	0	0	0	7.49E-03	0	0	0	0	**8.57E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-20 (Cartersville, GA)

Parameter	Unit	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	Total
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.15E-01	3.15E-03	5.50E-02	2.29E-02	1.74E-02	0	1.92E-02	1.31E-04	0	4.88E-05	3.26E-03	**2.36E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.16E-01	3.15E-03	6.14E-02	2.29E-02	1.74E-02	0	1.17E-02	1.31E-04	0	4.88E-05	3.26E-03	**2.36E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.12E-01	3.11E-03	5.31E-02	2.26E-02	1.72E-02	0	1.89E-02	1.31E-04	0	4.82E-05	3.22E-03	**2.30E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.13E-01	3.11E-03	5.95E-02	2.26E-02	1.72E-02	0	1.14E-02	1.16E-04	0	4.82E-05	2.88E-03	**2.30E-01**
Ozone depletion	kg CFC-11 eq	1.61E-09	4.47E-11	2.12E-09	3.25E-10	2.47E-10	0	1.61E-10	3.96E-13	0	7.97E-13	9.85E-12	**4.52E-09**
Acidification	kg SO2 eq	3.77E-04	7.69E-06	1.83E-04	5.59E-05	4.24E-05	0	3.78E-05	9.09E-08	0	2.35E-07	2.26E-06	**7.07E-04**
Eutrophication	kg N eq	5.29E-05	5.22E-07	1.74E-05	3.80E-06	2.88E-06	0	5.32E-06	2.39E-06	0	1.49E-08	5.96E-07	**8.35E-05**
Smog	kg O3 eq	4.89E-03	1.97E-04	2.44E-03	1.43E-03	1.09E-03	0	4.99E-04	9.78E-04	0	7.23E-06	6.25E-05	**2.04E-02**
Respiratory effects	kg PM2.5 eq	5.87E-05	1.06E-06	2.92E-05	7.69E-06	5.84E-06	0	5.88E-06	1.33E-08	0	2.94E-08	3.31E-07	**1.09E-04**
Additional environmental information													
Carcinogenics	CTUh	5.46E-10	1.99E-12	8.30E-11	1.45E-11	1.10E-11	0	5.56E-11	1.00E-12	0	1.03E-14	2.50E-11	**7.38E-10**
Non carcinogenics	CTUh	6.41E-09	3.84E-10	1.71E-09	2.79E-09	2.12E-09	0	7.12E-10	7.07E-12	0	2.13E-12	1.76E-12	**1.60E-08**
Ecotoxicity	CTUe	4.90E-02	7.83E-03	1.69E-02	5.69E-02	4.32E-02	0	5.01E-03	1.08E-04	0	6.22E-06	2.70E-03	**1.82E-01**
Fossil fuel depletion	MJ surplus	2.77E-01	5.93E-03	2.19E-01	4.31E-02	3.27E-02	0	2.77E-02	4.38E-05	0	9.03E-05	1.09E-03	**6.06E-01**
Resource use indicators													
RPRE	MJ, NCV	6.20E-02	6.84E-05	2.62E-02	4.97E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**9.55E-02**

RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	0
RPRotal	MJ, NCV	6.20E-02	6.84E-05	2.62E-02	4.97E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**9.55E-02**
NRPRE	MJ, NCV	2.46E+00	4.47E-02	1.82E+00	3.25E-01	2.46E-01	0	2.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**5.16E+00**
NRPRM	MJ, NCV	9.95E-01	0	0	0	0	0	9.95E-02	0	0	0	0	**1.09E+00**
NRPRotal	MJ, NCV	3.46E+00	4.47E-02	1.82E+00	3.25E-01	2.46E-01	0	3.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**6.25E+00**
ADP	kg	0	2.20E+00	4.19E-02	1.66E+00	3.05E-01	2.31E-01	0	2.20E-01	3.17E-04	0	6.77E-03	**4.66E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	2.36E-01	3.32E-04	1.40E-01	2.41E-03	1.83E-03	0	2.36E-02	1.99E-05	0	5.66E-05	4.95E-04	**4.04E-01**
Output flows and waste category indicators													
HWD	kg												
NHWD	kg	2.93E-03	9.76E-06	1.06E-03	7.09E-05	5.38E-05	0	2.93E-04	1.52E-07	0	2.77E-07	3.78E-06	**4.42E-03**
HLRW	kg	1.91E-02	3.86E-05	2.32E-01	2.81E-04	2.13E-04	0	8.84E-03	6.93E-03	0	6.01E-06	1.73E-03	**4.40E-01**
ILLRW	kg	2.04E-07	5.15E-10	1.56E-07	3.72E-09	2.82E-09	0	2.05E-08	1.59E-11	0	9.20E-11	3.97E-10	**3.88E-07**
CRU	kg	6.91E-07	1.01E-09	3.93E-07	7.28E-09	5.52E-09	0	6.91E-08	3.69E-10	0	2.10E-10	9.18E-10	**1.17E-06**
MR	kg	0	0	0	0	4.07E-03	0	0	0	0	0	0	**4.50E-03**
MER	kg	4.27E-04	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2												
BCRK	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEK	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CBCEW	kg CO2	-1.08E-03	0	-7.49E-03	0	0	0	0	0	0	0	0	**-8.57E-03**
CCE	kg CO2	0	0	1.08E-03	0	0	0	7.49E-03	0	0	0	0	**8.57E-03**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP^{A}-20 (Forth Worth, TX)

Parameter	Unit	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	Total
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.15E-01	1.15E-02	1.77E-02	1.06E-02	1.74E-02	0	1.92E-02	1.31E-04	0	4.88E-05	3.26E-03	**1.95E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.16E-01	1.15E-02	2.41E-02	1.06E-02	1.74E-02	0	1.17E-02	1.31E-04	0	4.88E-05	3.26E-03	**1.95E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.12E-01	1.14E-02	1.83E-02	1.05E-02	1.72E-02	0	1.89E-02	1.16E-04	0	4.82E-05	2.88E-03	**1.91E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.13E-01	1.14E-02	2.47E-02	1.05E-02	1.72E-02	0	1.14E-02	1.16E-04	0	4.82E-05	2.88E-03	**1.91E-01**
Ozone depletion	kg CFC-11 eq	1.61E-09	1.64E-10	2.09E-10	1.51E-10	2.47E-10	0	1.61E-10	3.96E-13	0	7.97E-13	9.85E-12	**2.55E-09**
Acidification	kg SO2 eq	3.77E-04	2.81E-05	7.65E-05	2.60E-05	4.24E-05	0	3.78E-05	9.09E-08	0	2.35E-07	2.26E-06	**5.91E-04**
Eutrophication	kg N eq	5.29E-05	1.91E-06	7.01E-06	7.07E-06	2.88E-06	0	5.32E-06	2.39E-08	0	1.49E-08	5.96E-07	**7.25E-05**
Smog	kg O3 eq	4.89E-03	7.21E-04	1.77E-03	6.67E-04	1.09E-03	0	4.91E-04	9.78E-04	0	7.23E-06	6.25E-05	**1.89E-02**
Respiratory effects	kg PM2.5 eq	5.87E-05	3.87E-06	1.41E-05	3.58E-06	5.84E-06	0	5.88E-06	1.33E-06	0	2.94E-08	3.31E-07	**9.24E-05**
Additional environmental information													
Carcinogenics	CTUh	5.46E-10	7.27E-12	2.87E-10	6.73E-12	1.10E-11	0	5.56E-11	1.00E-12	0	1.03E-14	2.50E-11	**9.39E-10**
Non-carcinogenics	CTUh	6.41E-09	1.41E-09	1.92E-10	1.30E-09	2.12E-09	0	7.12E-10	7.07E-10	0	2.13E-12	1.76E-09	**1.57E-08**
Ecotoxicity	CTUe	4.90E-02	2.86E-02	3.21E-02	2.65E-02	4.32E-02	0	5.01E-03	1.08E-04	0	6.22E-06	2.70E-03	**1.87E-01**
Fossil fuel depletion	MJ surplus	2.77E-01	2.17E-02	1.96E-02	2.01E-02	3.27E-02	0	2.77E-02	4.38E-05	0	9.03E-05	1.09E-03	**4.00E-01**
Resource use indicators													
RPRE	MJ, NCV	6.20E-02	2.50E-04	2.03E-02	2.31E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**8.95E-02**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRotal	MJ, NCV	6.20E-02	2.50E-04	2.03E-02	2.31E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**8.95E-02**
NRPRE	MJ, NCV	2.46E+00	1.63E-01	2.99E-01	1.51E-01	2.46E-01	0	2.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**3.58E+00**
NRPRM	MJ, NCV	9.95E-01	0	0	0	0	0	9.95E-02	0	0	0	0	**1.09E+00**
NRPRotal	MJ, NCV	3.46E+00	1.63E-01	2.99E-01	1.51E-01	2.46E-01	0	3.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**4.68E+00**
ADP	kg	0	2.20E+00	1.53E-01	2.61E-01	1.42E-01	2.31E-01	0	2.20E-01	3.17E-04	0	6.77E-03	**3.21E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	2.36E-01	1.21E-03	5.47E-02	1.12E-03	1.83E-03	0	2.36E-02	1.99E-05	0	5.66E-05	4.95E-04	**3.19E-01**
Output flows and waste category indicators													
HWD	kg	2.93E-03	3.57E-05	4.29E-03	3.30E-05	5.38E-05	0	2.93E-04	1.52E-07	0	2.77E-07	3.78E-06	**3.78E-03**
NHWD	kg	1.91E-02	1.41E-04	1.39E-02	6.60E-03	2.13E-04	0	8.84E-03	6.93E-03	0	6.01E-06	1.73E-03	**2.15E-01**
HLRW	kg	2.04E-07	1.88E-09	4.21E-08	1.73E-08	2.82E-09	0	2.05E-08	1.59E-11	0	9.20E-11	3.97E-10	**2.74E-07**
ILLRW	kg	6.91E-07	3.68E-09	1.58E-07	3.39E-09	5.52E-09	0	6.91E-08	3.69E-10	0	2.10E-10	9.18E-10	**9.32E-07**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	4.07E-03	0	0	0	0	0	0	**4.50E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-1.08E-03	0	-7.49E-03	0	0	0	0	0	0	0	0	**-8.57E-03**
BCEK	kg CO2	0	0	1.08E-03	0	0	0	7.49E-03	0	0	0	0	**8.57E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP^{A}-20 (Goodyear, AZ)

Parameter	Unit	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	Total
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.15E-01	1.27E-02	2.99E-02	1.48E-02	1.74E-02	0	1.92E-02	1.31E-04	0	4.88E-05	3.26E-03	**2.12E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.16E-01	1.27E-02	3.63E-02	1.48E-02	1.74E-02	0	1.17E-02	1.31E-04	0	4.88E-05	3.26E-03	**2.12E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.12E-01	1.25E-02	3.13E-02	1.46E-02	1.72E-02	0	1.89E-02	1.16E-04	0	4.82E-05	2.88E-03	**2.10E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.13E-01	1.25E-02	3.78E-02	1.46E-02	1.72E-02	0	1.14E-02	1.16E-04	0	4.82E-05	2.88E-03	**2.10E-01**
Ozone depletion	kg CFC-11 eq	1.61E-09	1.80E-10	9.70E-10	2.10E-10	2.47E-10	0	1.61E-10	3.96E-13	0	7.97E-13	9.85E-12	**3.39E-09**
Acidification	kg SO2 eq	3.77E-04	3.10E-05	1.22E-04	3.61E-05	4.24E-05	0	3.78E-05	9.09E-08	0	2.35E-07	2.26E-06	**6.50E-04**
Eutrophication	kg N eq	5.29E-05	2.11E-06	1.33E-05	2.45E-06	2.88E-06	0	5.32E-06	2.39E-08	0	1.49E-08	5.96E-07	**7.97E-05**
Smog	kg O3 eq	4.89E-03	7.96E-04	1.54E-03	9.26E-04	1.09E-03	0	4.91E-04	9.78E-04	0	7.23E-06	6.25E-05	**1.96E-02**
Respiratory effects	kg PM2.5 eq	5.87E-05	4.27E-06	1.82E-05	4.97E-06	5.84E-06	0	5.88E-06	1.33E-06	0	2.94E-08	3.31E-07	**9.82E-05**
Additional environmental information													
Carcinogenics	CTUh	5.46E-10	8.03E-12	3.13E-10	9.34E-12	1.10E-11	0	5.56E-11	1.00E-12	0	1.03E-14	2.50E-11	**9.68E-10**
Non-carcinogenics	CTUh	6.41E-09	1.55E-09	1.92E-10	1.80E-09	2.12E-09	0	7.12E-10	7.07E-10	0	2.13E-12	1.76E-09	**1.64E-08**
Ecotoxicity	CTUe	4.90E-02	3.16E-02	3.65E-02	3.68E-02	4.32E-02	0	5.01E-03	1.08E-04	0	6.22E-06	2.70E-03	**2.05E-01**
Fossil fuel depletion	MJ surplus	2.77E-01	2.39E-02	4.60E-02	2.78E-02	3.27E-02	0	2.77E-02	4.38E-05	0	9.03E-05	1.09E-03	**4.36E-01**
Resource use indicators													
RPRE	MJ, NCV	6.20E-02	2.76E-04	3.88E-02	3.21E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**1.08E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRotal	MJ, NCV	6.20E-02	2.76E-04	3.88E-02	3.21E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**1.08E-01**
NRPRE	MJ, NCV	2.46E+00	1.80E-01	6.12E-01	2.10E-01	2.46E-01	0	2.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**3.97E+00**
NRPRM	MJ, NCV	9.95E-01	0	0	0	0	0	9.95E-02	0	0	0	0	**1.09E+00**
NRPRotal	MJ, NCV	3.46E+00	1.80E-01	6.12E-01	2.10E-01	2.46E-01	0	3.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**5.07E+00**
ADP	kg	0	2.20E+00	1.69E-01	4.31E-01	1.97E-01	2.31E-01	0	2.20E-01	3.17E-04	0	6.77E-03	**3.45E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	2.36E-01	1.34E-03	1.21E-01	1.56E-03	1.83E-03	0	2.36E-02	1.99E-05	0	5.66E-05	4.95E-04	**3.85E-01**
Output flows and waste category indicators													
HWD	kg	2.93E-03	3.94E-05	5.05E-03	4.58E-05	5.38E-05	0	2.93E-04	1.52E-07	0	2.77E-07	3.78E-06	**3.87E-03**
NHWD	kg	1.91E-02	1.56E-04	9.53E-03	1.81E-03	2.13E-04	0	8.84E-03	6.93E-03	0	6.01E-06	1.73E-01	**2.18E-01**
HLRW	kg	2.04E-07	2.08E-09	4.95E-08	2.40E-09	2.82E-09	0	2.05E-08	1.59E-11	0	9.20E-11	3.97E-10	**2.82E-07**
ILLRW	kg	6.91E-07	4.07E-09	1.35E-06	4.70E-09	5.52E-09	0	6.91E-08	3.69E-10	0	2.10E-10	9.18E-10	**2.13E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	4.07E-03	0	0	0	0	0	0	**4.50E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-1.08E-03	0	-7.49E-03	0	0	0	0	0	0	0	0	**-8.57E-03**
BCEK	kg CO2	0	0	1.08E-03	0	0	0	7.49E-03	0	0	0	0	**8.57E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP^{A}-20 (Hampshire, IL)

Parameter	Unit	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	Total
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.15E-01	3.15E-03	2.72E-02	8.68E-03	1.74E-02	0	1.92E-02	1.31E-04	0	4.88E-05	3.26E-03	**1.94E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.16E-01	3.15E-03	3.36E-02	8.68E-03	1.74E-02	0	1.17E-02	1.31E-04	0	4.88E-05	3.26E-03	**1.94E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.12E-01	3.11E-03	2.76E-02	8.58E-03	1.72E-02	0	1.89E-02	1.16E-04	0	4.82E-05	2.88E-03	**1.90E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.13E-01	3.11E-03	3.40E-02	8.58E-03	1.72E-02	0	1.14E-02	1.16E-04	0	4.82E-05	2.88E-03	**1.90E-01**
Ozone depletion	kg CFC-11 eq	1.61E-09	4.47E-11	4.54E-10	1.24E-10	2.47E-10	0	1.61E-10	3.96E-13	0	7.97E-13	9.85E-12	**2.65E-09**
Acidification	kg SO2 eq	3.77E-04	7.69E-06	1.06E-04	5.12E-06	4.24E-05	0	3.78E-05	9.09E-08	0	2.35E-07	2.26E-06	**5.96E-04**
Eutrophication	kg N eq	5.29E-05	5.22E-07	8.62E-06	1.44E-06	2.88E-06	0	5.32E-06	2.39E-08	0	1.49E-08	5.96E-07	**7.24E-05**
Smog	kg O3 eq	4.89E-03	1.97E-04	1.46E-03	5.44E-04	1.09E-03	0	4.91E-04	9.78E-04	0	7.23E-06	6.25E-05	**1.85E-02**
Respiratory effects	kg PM2.5 eq	5.87E-05	1.06E-06	2.54E-05	2.92E-06	5.84E-06	0	5.88E-06	1.33E-06	0	2.94E-08	3.31E-07	**8.92E-05**
Additional environmental information													

Carcinogenics	CTUh	5.46E-10	1.99E-12	3.03E-10	5.48E-12	1.10E-11	0	5.56E-11	1.00E-12	0	1.03E-14	2.50E-11	**9.48E-10**
Non-carcinogenics	CTUh	6.41E-09	3.84E-10	2.43E-09	1.06E-09	2.12E-09	0	7.12E-10	7.07E-11	0	2.13E-12	1.76E-09	**1.50E-08**
Ecotoxicity	CTUe	4.90E-02	7.83E-03	2.97E-02	2.16E-02	4.32E-02	0	5.01E-03	1.08E-03	0	6.22E-06	2.70E-03	**1.59E-01**
Fossil fuel depletion	MJ surplus	2.77E-01	5.93E-03	2.29E-02	1.63E-02	3.27E-02	0	2.77E-02	4.38E-05	0	9.03E-05	1.09E-03	**3.83E-01**
Resource use indicators													
RPRE	MJ, NCV	6.20E-02	6.84E-05	1.85E-02	1.89E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**8.74E-02**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	6.20E-02	6.84E-05	1.85E-02	1.89E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**8.74E-02**
NRPRE	MJ, NCV	2.46E+00	4.47E-02	4.42E-01	1.23E-01	2.46E-01	0	2.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**3.58E+00**
NRPRM	MJ, NCV	9.95E-01	0	0	0	0	0	9.95E-02	0	0	0	0	**1.09E+00**
NRPRtotal	MJ, NCV	3.46E+00	4.47E-02	4.42E-01	1.23E-01	2.46E-01	0	3.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**4.67E+00**
ADP	kg	0	2.20E+00	4.19E-02	3.59E-01	1.16E-01	2.31E-01	0	2.20E-01	3.17E-04	0	6.77E-03	**3.17E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	2.36E-01	3.32E-04	5.14E-02	9.14E-04	1.83E-03	0	2.36E-02	1.99E-05	0	5.66E-05	4.95E-04	**3.14E-01**
Output flows and waste category indicators													
HWD	kg	2.93E-03	9.76E-06	3.63E-04	2.69E-05	5.38E-05	0	2.93E-04	1.52E-07	0	2.77E-07	3.78E-06	**3.68E-03**
NHWD	kg	1.91E-02	3.86E-05	5.60E-03	1.06E-04	2.13E-04	0	8.84E-03	6.93E-03	0	6.01E-06	1.73E-01	**2.13E-01**
HLRW	kg	2.04E-07	5.15E-10	3.57E-08	1.41E-09	2.82E-09	0	2.05E-08	1.59E-11	0	9.20E-11	3.97E-10	**2.66E-07**
ILLRW	kg	6.91E-07	1.01E-09	5.04E-07	2.76E-09	5.52E-09	0	6.91E-08	3.69E-11	0	2.10E-10	9.18E-10	**1.27E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	4.07E-03	0	0	0	0	0	0	**4.50E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-1.08E-03	0	-7.49E-03	0	0	0	0	0	0	0	0	**-8.57E-03**
BCEK	kg CO2	0	0	1.08E-03	0	0	0	7.49E-03	0	0	0	0	**8.57E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-20 (York, PA)

Parameter	Unit	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	Total
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.15E-01	4.82E-02	1.36E-02	4.96E-03	1.74E-02	0	1.92E-02	1.31E-04	0	4.88E-05	3.26E-03	**2.22E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.16E-01	4.82E-02	2.00E-02	4.96E-03	1.74E-02	0	1.17E-02	1.31E-04	0	4.88E-05	3.26E-03	**2.22E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.12E-01	4.76E-02	1.43E-02	4.90E-03	1.72E-02	0	1.89E-02	1.16E-04	0	4.82E-05	2.88E-03	**2.18E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.13E-01	4.76E-02	2.08E-02	4.90E-03	1.72E-02	0	1.14E-02	1.16E-04	0	4.82E-05	2.88E-03	**2.18E-01**
Ozone depletion	kg CFC-11 eq	1.61E-09	6.85E-10	5.55E-10	7.04E-11	2.47E-10	0	1.61E-10	3.96E-13	0	7.97E-13	9.85E-12	**3.34E-09**
Acidification	kg SO2 eq	3.77E-04	1.18E-04	8.99E-05	1.21E-05	4.24E-05	0	3.78E-05	9.09E-05	0	2.35E-07	2.26E-06	**6.80E-04**
Eutrophication	kg N eq	5.29E-05	8.00E-06	9.40E-06	8.23E-07	2.88E-06	0	5.32E-06	2.39E-08	0	1.49E-08	5.96E-07	**8.00E-05**
Smog	kg O3 eq	4.89E-03	3.02E-03	1.20E-03	3.11E-04	1.09E-03	0	4.91E-04	9.78E-05	0	7.23E-06	6.25E-04	**2.09E-02**
Respiratory effects	kg PM2.5 eq	5.87E-05	1.62E-05	1.64E-05	1.67E-06	5.84E-06	0	5.88E-06	1.33E-08	0	2.94E-08	3.31E-07	**1.05E-04**
Additional environmental information													
Carcinogenics	CTUh	5.46E-10	3.05E-11	2.91E-10	3.13E-12	1.10E-11	0	5.56E-11	1.00E-12	0	1.03E-14	2.50E-11	**9.62E-10**
Non-carcinogenics	CTUh	6.41E-09	5.88E-09	1.68E-09	6.05E-10	2.12E-09	0	7.12E-10	7.07E-11	0	2.13E-12	1.76E-09	**1.92E-08**
Ecotoxicity	CTUe	4.90E-02	1.20E-01	3.57E-02	1.23E-02	4.32E-02	0	5.01E-03	1.08E-03	0	6.22E-06	2.70E-03	**2.68E-01**
Fossil fuel depletion	MJ surplus	2.77E-01	9.08E-02	1.80E-02	9.34E-03	3.27E-02	0	2.77E-02	4.38E-05	0	9.03E-05	1.09E-03	**4.56E-01**
Resource use indicators													
RPRE	MJ, NCV	6.20E-02	1.40E-04	1.54E-02	1.08E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**8.44E-02**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	6.20E-02	1.40E-04	1.54E-02	1.08E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**8.44E-02**
NRPRE	MJ, NCV	2.46E+00	9.13E-02	2.97E-01	7.04E-02	2.46E-01	0	2.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**3.43E+00**
NRPRM	MJ, NCV	9.95E-01	0	0	0	0	0	9.95E-02	0	0	0	0	**1.09E+00**
NRPRtotal	MJ, NCV	3.46E+00	9.13E-02	2.97E-01	7.04E-02	2.46E-01	0	3.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**4.52E+00**
ADP	kg	0	2.20E+00	8.57E-02	2.17E-01	6.61E-02	2.31E-01	0	2.20E-01	3.17E-04	0	6.77E-03	**3.02E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	2.36E-01	6.78E-04	6.82E-02	5.22E-04	1.83E-03	0	2.36E-02	1.99E-05	0	5.66E-05	4.95E-04	**3.31E-01**
Output flows and waste category indicators													
HWD	kg	2.93E-03	1.99E-05	5.05E-04	1.54E-05	5.38E-05	0	2.93E-04	1.52E-07	0	2.77E-07	3.78E-06	**3.82E-03**
NHWD	kg	1.91E-02	7.89E-05	7.75E-03	6.08E-05	2.13E-04	0	8.84E-03	6.93E-03	0	6.01E-06	1.73E-01	**2.16E-01**
HLRW	kg	2.04E-07	1.06E-09	4.95E-08	8.06E-10	2.82E-09	0	2.05E-08	1.59E-11	0	9.20E-11	3.97E-10	**2.80E-07**
ILLRW	kg	6.91E-07	2.07E-09	6.04E-07	1.58E-09	5.52E-09	0	6.91E-08	3.69E-11	0	2.10E-10	9.18E-10	**1.37E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	4.07E-03	0	0	0	0	0	0	**4.50E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-1.08E-03	0	-7.49E-03	0	0	0	0	0	0	0	0	**-8.57E-03**
BCEK	kg CO2	0	0	1.08E-03	0	0	0	7.49E-03	0	0	0	0	**8.57E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-20 (Milton, Ontario, Canada)

Parameter	Unit	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	Total
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.15E-01	1.27E-02	8.83E-03	2.53E-03	1.74E-02	0	1.92E-02	1.31E-04	0	4.88E-05	3.26E-03	**2.02E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.16E-01	1.27E-02	1.52E-02	2.53E-03	1.74E-02	0	1.17E-02	1.31E-04	0	4.88E-05	3.26E-03	**2.02E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.12E-01	1.25E-02	9.63E-03	2.50E-03	1.72E-02	0	1.89E-02	1.16E-04	0	4.82E-05	2.88E-03	**1.98E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.13E-01	1.25E-02	1.60E-02	2.50E-03	1.72E-02	0	1.14E-02	1.16E-04	0	4.82E-05	2.88E-03	**1.98E-01**
Ozone depletion	kg CFC-11 eq	1.61E-09	1.80E-10	4.48E-10	3.60E-10	2.47E-10	0	1.61E-10	3.96E-13	0	7.97E-13	9.85E-12	**3.01E-09**
Acidification	kg SO2 eq	3.77E-04	3.10E-05	5.65E-05	6.18E-05	4.24E-05	0	3.78E-05	9.09E-05	0	2.35E-07	2.26E-06	**6.10E-04**
Eutrophication	kg N eq	5.29E-05	2.11E-06	6.15E-06	4.20E-06	2.88E-06	0	5.32E-06	2.39E-08	0	1.49E-08	5.96E-07	**7.42E-05**
Smog	kg O3 eq	4.89E-03	7.96E-04	9.58E-03	1.59E-03	1.09E-03	0	4.91E-04	9.78E-05	0	7.23E-06	6.25E-04	**1.97E-02**
Respiratory effects	kg PM2.5 eq	5.87E-05	4.27E-06	1.39E-05	8.52E-06	5.84E-06	0	5.88E-06	1.33E-08	0	2.94E-08	3.31E-07	**9.75E-05**
Additional environmental information													
Carcinogenics	CTUh	5.46E-10	8.03E-12	2.74E-10	1.60E-11	1.10E-11	0	5.56E-11	1.00E-12	0	1.03E-14	2.50E-11	**9.36E-10**
Non-carcinogenics	CTUh	6.41E-09	1.55E-09	1.54E-09	3.09E-10	2.12E-09	0	7.12E-10	7.07E-11	0	2.13E-12	1.76E-09	**1.73E-08**
Ecotoxicity	CTUe	4.90E-02	3.16E-02	3.37E-02	6.30E-03	4.32E-02	0	5.01E-03	1.08E-03	0	6.22E-06	2.70E-03	**2.28E-01**
Fossil fuel depletion	MJ surplus	2.77E-01	2.39E-02	1.29E-02	4.77E-02	3.27E-02	0	2.77E-02	4.38E-05	0	9.03E-05	1.09E-03	**4.23E-01**
Resource use indicators													
RPRE	MJ, NCV	6.20E-02	2.76E-04	2.15E-02	5.51E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**9.11E-02**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	6.20E-02	2.76E-04	2.15E-02	5.51E-04	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**9.11E-02**
NRPRE	MJ, NCV	2.46E+00	1.80E-01	2.50E-01	3.59E-01	2.46E-01	0	2.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**3.76E+00**
NRPRM	MJ, NCV	9.95E-01	0	0	0	0	0	9.95E-02	0	0	0	0	**1.09E+00**
NRPRtotal	MJ, NCV	3.46E+00	1.80E-01	2.50E-01	3.59E-01	2.46E-01	0	3.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**4.86E+00**
ADP	kg	0	2.20E+00	1.69E-01	1.62E-01	3.37E-01	2.31E-01	0	2.20E-01	3.17E-04	0	6.77E-03	**3.32E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	2.36E-01	1.34E-03	1.25E-01	2.67E-03	1.83E-03	0	2.36E-02	1.99E-05	0	5.66E-05	4.95E-04	**3.90E-01**
Output flows and waste category indicators													
HWD	kg												
NHWD	kg	2.93E-03	3.94E-05	4.75E-03	7.85E-05	5.38E-05	0	2.93E-04	1.52E-07	0	2.77E-07	3.78E-06	**3.88E-03**
HLRW	kg	1.91E-02	1.56E-04	7.29E-03	3.11E-04	2.13E-04	0	8.84E-03	6.93E-03	0	6.01E-06	1.73E-01	**2.15E-01**
ILLRW	kg	2.04E-07	2.08E-09	4.66E-08	4.11E-09	2.82E-09	0	2.05E-08	1.59E-11	0	9.20E-11	3.97E-10	**2.81E-07**
CRU	kg	6.91E-07	4.07E-09	7.26E-07	8.05E-09	5.52E-09	0	6.91E-08	3.69E-11	0	2.10E-10	9.18E-10	**1.50E-06**
MR	kg	0	0	0	0	4.07E-03	0	0	0	0	0	0	**4.50E-03**
MER	kg	4.27E-04	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-1.08E-03	0	-7.49E-03	0	0	0	0	0	0	0	0	**-8.57E-03**
BCEK	kg CO2	0	0	1.08E-03	0	0	0	7.49E-03	0	0	0	0	**8.57E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-20 (Sherwood, Alberta, Canada)

Parameter	Unit	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	Total
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.15E-01	4.82E-02	4.61E-02	4.11E-03	1.74E-02	0	1.92E-02	1.31E-04	0	4.88E-05	3.26E-03	**2.54E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.16E-01	4.82E-02	5.25E-02	4.11E-03	1.74E-02	0	1.17E-02	1.31E-04	0	4.88E-05	3.26E-03	**2.54E-01**

GWP, TRACI 2.1TOTAL	kg CO2 eq	1.12E-01	4.79E-02	4.62E-02	4.12E-03	1.72E-02	0	1.89E-02	1.16E-04	0	5.19E-04	2.88E-03	**2.50E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-1.08E-03	0	-6.41E-03	0	0	0	7.49E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.13E-01	4.79E-02	5.26E-02	4.12E-03	1.72E-02	0	1.14E-02	1.16E-04	0	5.19E-04	2.88E-03	**2.50E-01**
Ozone depletion	kg CFC-11 eq	1.61E-09	6.89E-10	6.71E-10	5.92E-11	2.47E-10	0	1.61E-10	3.96E-13	0	8.58E-12	9.85E-12	**3.45E-09**
Acidification	kg SO2 eq	3.77E-04	1.18E-04	2.02E-04	1.02E-05	4.24E-05	0	3.78E-05	9.09E-08	0	2.53E-06	2.26E-06	**7.93E-04**
Eutrophication	kg N eq	5.29E-05	8.05E-06	1.92E-05	6.92E-07	2.88E-06	0	5.32E-06	2.39E-08	0	1.60E-07	5.96E-07	**8.99E-05**
Smog	kg O3 eq	4.89E-03	3.04E-03	2.20E-03	2.61E-04	1.09E-03	0	4.91E-04	9.78E-03	0	7.79E-05	6.25E-05	**2.19E-02**
Respiratory effects	kg PM2.5 eq	5.87E-05	1.63E-05	2.23E-05	1.40E-06	5.84E-06	0	5.88E-06	1.33E-08	0	3.16E-07	3.31E-07	**1.11E-04**
Additional environmental information													
Carcinogenics	CTUh	5.46E-10	3.06E-11	3.35E-10	2.63E-12	1.10E-11	0	5.56E-11	1.00E-12	0	1.11E-13	2.50E-11	**1.01E-09**
Non-carcinogenics	CTUh	6.41E-09	5.92E-09	2.57E-09	5.09E-10	2.12E-09	0	7.12E-10	7.07E-11	0	2.29E-11	1.76E-09	**2.01E-08**
Ecotoxicity	CTUe	4.90E-02	1.21E-01	3.62E-02	1.04E-02	4.32E-02	0	5.01E-03	1.08E-04	0	6.70E-05	2.70E-03	**2.67E-01**
Fossil fuel depletion	MJ surplus	2.77E-01	9.13E-02	5.77E-02	7.85E-03	3.27E-02	0	2.77E-02	4.38E-05	0	9.72E-04	1.09E-03	**4.96E-01**
Resource use indicators													
RPRE	MJ, NCV	6.20E-02	1.05E-03	3.39E-02	9.07E-05	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**1.04E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	6.20E-02	1.05E-03	3.39E-02	9.07E-05	3.77E-04	0	6.21E-03	3.00E-06	0	1.30E-05	7.47E-05	**1.04E-01**
NRPRE	MJ, NCV	2.46E+00	6.84E-01	6.69E-01	5.92E-02	2.46E-01	0	2.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**4.38E+00**
NRPRM	MJ, NCV	9.95E-01	0	0	0	0	0	9.95E-02	0	0	0	0	**1.09E+00**
NRPRtotal	MJ, NCV	3.46E+00	6.84E-01	6.69E-01	5.92E-02	2.46E-01	0	3.46E-01	3.41E-04	0	7.21E-03	8.50E-03	**5.48E+00**
ADP	kg	0	2.20E+00	6.42E-01	6.08E-01	5.55E-02	2.31E-01	0	2.20E-01	3.17E-04	0	6.77E-03	**3.96E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	2.36E-01	5.08E-03	1.13E-01	4.39E-04	1.83E-03	0	2.36E-02	1.99E-05	0	5.66E-05	4.95E-04	**3.80E-01**
Output flows and waste category indicators													
HWD	kg	2.93E-03	1.49E-04	4.90E-04	1.29E-05	5.38E-05	0	2.93E-04	1.52E-07	0	2.77E-07	3.78E-06	**3.93E-03**
NHWD	kg	1.91E-02	5.91E-04	7.52E-03	5.11E-05	2.13E-04	0	8.84E-03	6.93E-03	0	6.01E-06	1.73E-01	**2.16E-01**
HLRW	kg	2.04E-07	2.08E-09	4.66E-08	4.11E-09	2.82E-09	0	2.05E-08	1.59E-11	0	9.20E-11	3.97E-10	**2.81E-07**
ILLRW	kg	6.91E-07	4.07E-09	7.26E-07	8.05E-09	5.52E-09	0	6.91E-08	3.69E-11	0	2.10E-10	9.18E-10	**1.50E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	4.07E-03	0	0	0	0	0	0	**4.50E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-1.08E-03	0	-7.49E-03	0	0	0	0	0	0	0	0	**-8.57E-03**
BCEK	kg CO2	0	0	1.08E-03	0	0	0	7.49E-03	0	0	0	0	**8.57E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-25 (Benicia, CA)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.79E-01	2.85E-02	9.98E-02	1.03E-02	1.30E-02	0	2.39E-02	1.31E-04	0	1.58E-03	2.45E-03	**3.58E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.82E-01	2.85E-02	1.02E-01	1.03E-02	1.30E-02	0	1.83E-02	1.31E-04	0	1.58E-03	2.45E-03	**3.58E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.74E-01	2.82E-02	9.77E-02	1.02E-02	1.29E-02	0	2.34E-02	1.16E-04	0	1.56E-03	2.16E-03	**3.50E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.77E-01	2.82E-02	9.95E-02	1.02E-02	1.29E-02	0	1.78E-02	1.16E-04	0	1.56E-03	2.16E-03	**3.50E-01**
Ozone depletion	kg CFC-11 eq	2.52E-09	4.05E-10	2.34E-09	1.47E-10	1.85E-10	0	2.52E-10	3.96E-13	0	2.58E-11	7.39E-12	**5.88E-09**
Acidification	kg SO2 eq	5.88E-04	6.97E-05	2.41E-04	2.52E-05	3.18E-05	0	5.89E-05	9.09E-08	0	7.62E-06	1.70E-06	**1.02E-03**
Eutrophication	kg N eq	7.15E-05	4.74E-06	1.49E-05	1.72E-06	2.16E-06	0	7.17E-06	2.39E-08	0	4.83E-07	4.47E-07	**1.03E-04**
Smog	kg O3 eq	7.64E-03	1.79E-03	2.18E-03	6.48E-04	8.16E-04	0	7.66E-04	1.98E-02	0	2.34E-04	4.69E-05	**3.39E-02**
Respiratory effects	kg PM2.5 eq	9.09E-05	9.60E-06	1.72E-05	3.48E-06	4.38E-06	0	9.10E-06	1.33E-08	0	9.53E-07	2.48E-07	**1.36E-04**
Additional environmental information													
Carcinogenics	CTUh	8.43E-10	1.80E-11	1.25E-10	6.53E-12	8.23E-12	0	8.50E-11	1.00E-12	0	3.34E-13	1.87E-11	**1.11E-09**
Non-carcinogenics	CTUh	9.92E-09	3.48E-09	2.41E-09	1.26E-09	1.59E-09	0	1.04E-09	7.07E-11	0	6.89E-11	1.32E-09	**2.12E-08**
Ecotoxicity	CTUe	7.60E-02	7.10E-02	5.08E-03	2.57E-02	3.24E-02	0	7.68E-03	1.08E-04	0	2.02E-04	2.02E-03	**2.20E-01**
Fossil fuel depletion	MJ surplus	4.43E-01	5.37E-02	1.91E-01	1.95E-02	2.45E-02	0	4.43E-02	4.38E-05	0	2.93E-03	8.18E-04	**7.79E-01**
Resource use indicators													
RPRE	MJ, NCV	9.18E-02	6.20E-04	3.66E-01	2.25E-04	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**4.68E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	9.18E-02	6.20E-04	3.66E-01	2.25E-04	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**4.68E-01**
NRPRE	MJ, NCV	3.92E+00	4.05E-01	1.84E+00	1.47E-01	1.85E-01	0	3.92E-01	3.41E-04	0	2.17E-02	6.38E-03	**6.92E+00**
NRPRM	MJ, NCV	1.55E+00	0	0	0	0	0	1.55E-01	0	0	0	0	**1.70E+00**
NRPRtotal	MJ, NCV	5.47E+00	4.05E-01	1.84E+00	1.47E-01	1.85E-01	0	5.47E-01	3.41E-04	0	2.17E-02	6.38E-03	**8.62E+00**
ADP	kg	0	3.50E+00	3.80E-01	1.40E+00	1.38E-01	1.74E-01	0	3.50E-01	3.17E-04	0	2.04E-02	**5.96E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	3.62E-01	3.01E-03	5.81E-01	1.09E-03	1.37E-03	0	3.62E-02	1.99E-05	0	1.70E-04	3.71E-04	**9.86E-01**
Output flows and waste category indicators													
HWD	kg	4.52E-03	8.84E-05	2.21E-05	3.20E-05	4.04E-05	0	4.52E-04	1.52E-07	0	8.33E-07	2.83E-06	**5.16E-03**
NHWD	kg	4.05E-02	3.50E-04	5.50E-03	1.27E-04	1.60E-04	0	9.25E-03	6.93E-03	0	1.81E-05	1.29E-01	**1.92E-01**
HLRW	kg	3.11E-07	4.63E-09	3.25E-09	1.68E-09	2.12E-09	0	3.11E-08	1.59E-11	0	2.77E-10	2.98E-10	**3.54E-07**
ILLRW	kg	1.06E-06	9.08E-09	2.87E-06	3.29E-09	4.14E-09	0	1.06E-07	3.69E-11	0	6.34E-10	6.89E-10	**4.05E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	2.10E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.26E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-3.77E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-9.37E-03**
BCEK	kg CO2	0	0	3.77E-03	0	0	0	5.60E-03	0	0	0	0	**9.37E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-25 (Cartersville, GA)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.79E-01	4.96E-03	6.21E-03	2.60E-03	1.30E-02	0	2.39E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.33E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.82E-01	4.96E-03	8.04E-03	2.60E-03	1.30E-02	0	1.83E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.33E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.74E-01	4.90E-03	6.54E-03	2.57E-03	1.29E-02	0	2.34E-02	1.16E-04	0	1.56E-03	2.16E-03	**2.28E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.77E-01	4.90E-03	8.37E-03	2.57E-03	1.29E-02	0	1.78E-02	1.16E-04	0	1.56E-03	2.16E-03	**2.28E-01**
Ozone depletion	kg CFC-11 eq	2.52E-09	7.05E-11	6.75E-11	3.70E-11	1.85E-10	0	2.52E-10	3.96E-13	0	2.58E-11	7.39E-12	**3.16E-09**
Acidification	kg SO2 eq	5.88E-04	1.21E-05	1.72E-05	6.36E-06	3.18E-05	0	5.89E-05	9.09E-08	0	7.62E-06	1.70E-06	**7.24E-04**
Eutrophication	kg N eq	7.15E-05	8.24E-07	1.95E-06	4.32E-07	2.16E-06	0	7.17E-06	2.39E-08	0	4.83E-07	4.47E-07	**8.50E-05**
Smog	kg O3 eq	7.64E-03	3.11E-04	2.44E-04	1.63E-04	8.16E-04	0	7.66E-04	1.98E-02	0	2.34E-04	4.69E-05	**3.00E-02**
Respiratory effects	kg PM2.5 eq	9.09E-05	1.67E-06	2.73E-06	8.76E-07	4.38E-06	0	9.10E-06	1.33E-08	0	9.53E-07	2.48E-07	**1.11E-04**
Additional environmental information													
Carcinogenics	CTUh	8.43E-10	3.14E-12	3.20E-11	1.65E-12	8.23E-12	0	8.50E-11	1.00E-12	0	3.34E-13	1.87E-11	**9.93E-10**
Non-carcinogenics	CTUh	9.92E-09	6.06E-10	4.28E-10	3.18E-10	1.59E-09	0	1.04E-09	7.07E-11	0	6.89E-11	1.32E-09	**1.54E-08**
Ecotoxicity	CTUe	7.60E-02	1.23E-02	1.72E-03	6.48E-03	3.24E-02	0	7.68E-03	1.08E-04	0	2.02E-04	2.02E-03	**1.39E-01**
Fossil fuel depletion	MJ surplus	4.43E-01	9.35E-03	9.43E-03	4.91E-03	2.45E-02	0	4.43E-02	4.38E-05	0	2.93E-03	8.18E-04	**5.39E-01**
Resource use indicators													
RPRE	MJ, NCV	9.18E-02	1.08E-04	4.37E-03	5.66E-05	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.06E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	9.18E-02	1.08E-04	4.37E-03	5.66E-05	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.06E-01**
NRPRE	MJ, NCV	3.92E+00	7.04E-02	1.33E-01	3.70E-02	1.85E-01	0	3.92E-01	3.41E-04	0	2.17E-02	6.38E-03	**4.76E+00**
NRPRM	MJ, NCV	1.55E+00	0	0	0	0	0	1.55E-01	0	0	0	0	**1.70E+00**
NRPRtotal	MJ, NCV	5.47E+00	7.04E-02	1.33E-01	3.70E-02	1.85E-01	0	5.47E-01	3.41E-04	0	2.17E-02	6.38E-03	**6.47E+00**
ADP	kg	0	3.50E+00	6.61E-02	1.10E-01	3.47E-02	1.74E-01	0	3.50E-01	3.17E-04	0	2.04E-02	**4.25E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	3.62E-01	5.23E-04	9.40E-03	2.74E-04	1.37E-03	0	3.62E-02	1.99E-05	0	1.70E-04	3.71E-04	**4.11E-01**
Output flows and waste category indicators													
HWD	kg	4.52E-03	1.54E-05	4.38E-05	8.08E-06	4.04E-05	0	4.52E-04	1.52E-07	0	8.33E-07	2.83E-06	**5.08E-03**
NHWD	kg	4.05E-02	6.09E-05	5.61E-03	3.20E-05	1.60E-04	0	9.25E-03	6.93E-03	0	1.81E-05	1.29E-01	**1.92E-01**
HLRW	kg	7.68E-07	1.56E-09	1.52E-07	8.20E-10	4.10E-09	0	7.68E-08	3.65E-11	0	6.27E-10	6.83E-10	**1.00E-06**
ILLRW	kg	6.05E-07	8.23E-10	3.98E-08	4.32E-10	2.16E-09	0	6.05E-08	1.63E-11	0	2.83E-10	3.04E-10	**7.09E-07**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	2.10E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.26E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													

BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-3.77E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	0	**-9.37E-03**
BCEK	kg CO2	0	0	3.77E-03	0	0	0	5.60E-03	0	0	0	0	0	**9.37E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-25 (Fort Worth, TX)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.79E-01	1.83E-02	7.35E-03	5.76E-03	1.30E-02	0	2.39E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.51E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.82E-01	1.83E-02	9.18E-03	5.76E-03	1.30E-02	0	1.83E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.51E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.74E-01	1.81E-02	7.64E-03	5.70E-03	1.29E-02	0	2.34E-02	1.16E-04	0	1.56E-03	2.36E-03	**2.45E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.77E-01	1.81E-02	9.46E-03	5.70E-03	1.29E-02	0	1.78E-02	1.16E-04	0	1.56E-03	2.36E-03	**2.45E-01**
Ozone depletion	kg CFC-11 eq	2.52E-09	2.60E-10	1.14E-10	8.19E-11	1.85E-10	0	2.52E-10	3.96E-13	0	2.58E-11	7.39E-12	**3.44E-09**
Acidification	kg SO2 eq	5.88E-04	4.47E-05	2.33E-05	1.41E-05	3.18E-05	0	5.89E-05	9.09E-08	0	7.62E-06	1.70E-06	**7.71E-04**
Eutrophication	kg N eq	7.15E-05	3.04E-06	1.99E-06	9.57E-07	2.66E-06	0	7.17E-06	2.39E-08	0	4.83E-07	4.47E-07	**8.78E-05**
Smog	kg O3 eq	7.64E-03	1.15E-03	2.85E-04	3.61E-04	8.16E-04	0	7.66E-04	1.98E-04	0	2.34E-04	4.69E-04	**3.11E-02**
Respiratory effects	kg PM2.5 eq	9.09E-05	6.16E-06	1.78E-06	1.94E-06	4.38E-06	0	9.10E-06	1.33E-08	0	9.53E-07	2.48E-07	**1.15E-04**
Additional environmental information													
Carcinogenics	CTUh	8.43E-10	1.16E-11	3.15E-11	3.64E-12	8.23E-12	0	8.50E-11	1.00E-12	0	3.34E-13	1.87E-11	**1.00E-09**
Non-carcinogenics	CTUh	9.92E-09	2.23E-09	3.40E-10	7.04E-09	1.59E-09	0	1.04E-09	7.07E-11	0	6.89E-11	1.32E-09	**1.74E-08**
Ecotoxicity	CTUe	7.60E-02	4.55E-02	1.71E-03	1.43E-02	3.24E-02	0	7.68E-03	1.08E-04	0	2.02E-04	2.02E-03	**1.80E-01**
Fossil fuel depletion	MJ surplus	4.43E-01	3.45E-02	1.11E-02	1.09E-02	2.45E-02	0	4.43E-02	4.38E-05	0	2.93E-03	8.18E-04	**5.72E-01**
Resource use indicators													
RPRE	MJ, NCV	9.18E-02	3.98E-04	7.57E-03	1.25E-04	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.09E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	9.18E-02	3.98E-04	7.57E-03	1.25E-04	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.09E-01**
NRPRE	MJ, NCV	3.92E+00	2.60E-01	1.42E-01	8.18E-02	1.85E-01	0	3.92E-01	3.41E-04	0	2.17E-02	6.38E-03	**5.01E+00**
NRPRM	MJ, NCV	1.55E+00	0	0	0	0	0	1.55E-01	0	0	0	0	**1.70E+00**
NRPRtotal	MJ, NCV	5.47E+00	2.60E-01	1.42E-01	8.18E-02	1.85E-01	0	5.47E-01	3.41E-04	0	2.17E-02	6.38E-03	**6.71E+00**
ADP	kg	0	3.50E+00	2.44E-01	1.23E-01	7.68E-02	1.74E-01	0	3.50E-01	3.17E-04	0	2.04E-02	**4.49E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	2.36E-01	1.21E-03	5.47E-02	1.12E-03	1.83E-03	0	2.36E-02	1.99E-05	0	5.66E-05	4.95E-04	**3.19E-01**
Output flows and waste category indicators													
HWD	kg	2.93E-03	3.57E-05	4.29E-04	3.30E-05	5.38E-05	0	2.93E-04	1.52E-04	0	2.77E-07	3.78E-06	**3.78E-03**
NHWD	kg	1.91E-02	1.41E-04	6.60E-03	1.31E-04	2.13E-03	0	8.84E-03	6.93E-03	0	6.01E-06	1.73E-01	**2.15E-01**
HLRW	kg	3.11E-07	2.97E-09	3.25E-09	9.36E-10	2.12E-09	0	3.11E-08	1.59E-11	0	2.77E-10	2.98E-10	**3.52E-07**
ILLRW	kg	1.06E-06	5.82E-09	8.19E-08	1.83E-08	4.14E-08	0	1.06E-07	3.69E-11	0	6.34E-10	6.89E-10	**1.26E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	2.10E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.26E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-3.77E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-9.37E-03**
BCEK	kg CO2	0	0	3.77E-03	0	0	0	5.60E-03	0	0	0	0	**9.37E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-25 (Goodyear, AZ)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.79E-01	2.07E-02	2.31E-02	7.74E-03	1.30E-02	0	2.39E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.71E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.82E-01	2.07E-02	2.49E-02	7.74E-03	1.30E-02	0	1.83E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.71E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.74E-01	2.05E-02	2.30E-02	7.65E-03	1.29E-02	0	2.34E-02	1.16E-04	0	1.56E-03	2.36E-03	**2.65E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.77E-01	2.05E-02	2.48E-02	7.65E-03	1.29E-02	0	1.78E-02	1.16E-04	0	1.56E-03	2.36E-03	**2.65E-01**
Ozone depletion	kg CFC-11 eq	2.52E-09	2.95E-10	6.81E-10	1.10E-10	1.85E-10	0	2.52E-10	3.96E-13	0	2.58E-11	7.39E-12	**4.07E-09**
Acidification	kg SO2 eq	5.88E-04	5.07E-05	6.79E-05	1.89E-05	3.18E-05	0	5.89E-05	9.09E-08	0	7.62E-06	1.70E-06	**8.26E-04**
Eutrophication	kg N eq	7.15E-05	3.44E-06	5.76E-06	1.28E-06	2.66E-06	0	7.17E-06	2.39E-08	0	4.83E-07	4.47E-07	**9.23E-05**
Smog	kg O3 eq	7.64E-03	1.30E-03	7.00E-04	4.85E-04	8.16E-04	0	7.66E-04	1.98E-04	0	2.34E-04	4.69E-04	**3.18E-02**
Respiratory effects	kg PM2.5 eq	9.09E-05	6.98E-06	4.26E-06	2.60E-06	4.38E-06	0	9.10E-06	1.33E-08	0	9.53E-07	2.48E-07	**1.19E-04**
Additional environmental information													
Carcinogenics	CTUh	8.43E-10	1.31E-11	5.56E-11	4.89E-12	8.23E-12	0	8.50E-11	1.00E-12	0	3.34E-13	1.87E-11	**1.03E-09**
Non-carcinogenics	CTUh	9.92E-09	2.53E-09	7.66E-10	9.45E-10	1.59E-09	0	1.04E-09	7.07E-11	0	6.89E-11	1.32E-09	**1.83E-08**
Ecotoxicity	CTUe	7.60E-02	5.16E-02	2.49E-03	1.92E-02	3.24E-02	0	7.68E-03	1.08E-04	0	2.02E-04	2.02E-03	**1.92E-01**
Fossil fuel depletion	MJ surplus	4.43E-01	3.91E-02	3.39E-02	1.46E-02	2.45E-02	0	4.43E-02	4.38E-05	0	2.93E-03	8.18E-04	**6.03E-01**
Resource use indicators													
RPRE	MJ, NCV	9.18E-02	4.51E-04	2.33E-02	1.68E-04	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.25E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	9.18E-02	4.51E-04	2.33E-02	1.68E-04	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.25E-01**
NRPRE	MJ, NCV	3.92E+00	2.94E-01	4.53E-01	1.10E-01	1.85E-01	0	3.92E-01	3.41E-04	0	2.17E-02	6.38E-03	**5.38E+00**
NRPRM	MJ, NCV	1.55E+00	0	0	0	0	0	1.55E-01	0	0	0	0	**1.70E+00**
NRPRtotal	MJ, NCV	5.47E+00	2.94E-01	4.53E-01	1.10E-01	1.85E-01	0	5.47E-01	3.41E-04	0	2.17E-02	6.38E-03	**7.08E+00**
ADP	kg	0	3.50E+00	2.76E-01	3.19E-01	1.03E-01	1.74E-01	0	3.50E-01	3.17E-04	0	2.04E-02	**4.74E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	3.62E-01	2.19E-03	4.79E-02	8.15E-04	1.37E-03	0	3.62E-02	1.99E-05	0	1.70E-04	3.71E-04	**4.51E-01**
Output flows and waste category indicators													
HWD	kg	4.52E-03	6.43E-05	2.21E-05	2.40E-05	4.04E-05	0	4.52E-04	1.52E-05	0	8.33E-07	2.83E-05	**5.13E-03**
NHWD	kg	4.05E-02	2.54E-04	5.50E-03	9.49E-05	1.60E-04	0	9.25E-03	6.93E-03	0	1.81E-05	1.29E-01	**1.92E-01**
HLRW	kg	3.11E-07	8.06E-10	3.25E-09	1.35E-09	2.12E-09	0	3.11E-08	1.59E-11	0	2.77E-10	2.98E-10	**3.50E-07**
ILLRW	kg	1.06E-06	1.58E-09	3.53E-07	2.65E-09	4.14E-09	0	1.06E-07	3.69E-11	0	6.34E-10	6.89E-10	**1.53E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	2.10E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.26E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-3.77E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-9.37E-03**
BCEK	kg CO2	0	0	3.77E-03	0	0	0	5.60E-03	0	0	0	0	**9.37E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-25 (Hampshire, IL)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.79E-01	4.96E-03	9.62E-03	8.34E-03	1.30E-02	0	2.39E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.43E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.82E-01	4.96E-03	1.14E-02	8.34E-03	1.30E-02	0	1.83E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.43E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.74E-01	4.90E-03	9.89E-03	8.24E-03	1.29E-02	0	2.34E-02	1.16E-04	0	1.56E-03	2.36E-03	**2.37E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.77E-01	4.90E-03	1.17E-02	8.24E-03	1.29E-02	0	1.78E-02	1.16E-04	0	1.56E-03	2.36E-03	**2.37E-01**
Ozone depletion	kg CFC-11 eq	2.52E-09	7.05E-11	1.58E-10	1.18E-10	1.85E-10	0	2.52E-10	3.96E-13	0	2.58E-11	7.39E-12	**3.49E-09**
Acidification	kg SO2 eq	5.88E-04	1.21E-05	3.87E-05	2.04E-05	3.18E-05	0	5.89E-05	9.09E-08	0	7.62E-06	1.70E-06	**7.60E-04**
Eutrophication	kg N eq	7.15E-05	8.24E-07	3.34E-06	1.38E-06	2.66E-06	0	7.17E-06	2.39E-08	0	4.83E-07	4.47E-07	**8.73E-05**
Smog	kg O3 eq	7.64E-03	3.11E-04	4.05E-04	5.23E-04	8.16E-04	0	7.66E-04	1.98E-04	0	2.34E-04	4.69E-04	**3.05E-02**
Respiratory effects	kg PM2.5 eq	9.09E-05	1.67E-06	2.67E-06	2.80E-06	4.38E-06	0	9.10E-06	1.33E-08	0	9.53E-07	2.48E-07	**1.13E-04**
Additional environmental information													
Carcinogenics	CTUh	8.43E-10	3.14E-12	4.16E-11	5.27E-12	8.23E-12	0	8.50E-11	1.00E-12	0	3.34E-13	1.87E-11	**1.01E-09**
Non-carcinogenics	CTUh	9.92E-09	6.06E-10	5.54E-10	1.02E-09	1.59E-09	0	1.04E-09	7.07E-11	0	6.89E-11	1.32E-09	**1.62E-08**
Ecotoxicity	CTUe	7.60E-02	1.23E-02	2.03E-03	2.07E-02	3.24E-02	0	7.68E-03	1.08E-04	0	2.02E-04	2.02E-03	**1.54E-01**
Fossil fuel depletion	MJ surplus	4.43E-01	9.35E-03	1.17E-02	1.57E-02	2.45E-02	0	4.43E-02	4.38E-05	0	2.93E-03	8.18E-04	**5.52E-01**
Resource use indicators													
RPRE	MJ, NCV	9.18E-02	1.08E-04	4.96E-03	1.81E-04	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.07E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	9.18E-02	1.08E-04	4.96E-03	1.81E-04	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.07E-01**
NRPRE	MJ, NCV	3.92E+00	7.04E-02	1.94E-01	1.18E-01	1.85E-01	0	3.92E-01	3.41E-04	0	2.17E-02	6.38E-03	**4.91E+00**
NRPRM	MJ, NCV	1.55E+00	0	0	0	0	0	1.55E-01	0	0	0	0	**1.70E+00**

NRPRtotal	MJ, NCV	5.47E+00	7.04E-02	1.94E-01	1.18E-01	1.85E-01	0	5.47E-01	3.41E-04	0	2.17E-02	6.38E-03	0	**6.61E+00**
ADP	kg	0	3.50E+00	4.61E-02	1.45E-01	1.11E-01	1.74E-01	0	3.50E-01	3.17E-04	0	2.04E-02	0	**4.37E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	M3, LHV	3.62E-01	5.23E-04	7.00E-03	8.79E-04	1.37E-03	0	3.62E-02	1.99E-05	0	1.70E-04	3.71E-04		**4.09E-01**
Output flows and waste category indicators														
HWD	kg	4.52E-03	1.54E-05	2.21E-05	2.59E-05	4.04E-05	0	4.52E-04	1.52E-04	0	8.33E-07	2.83E-06		**5.08E-03**
NHWD	kg	4.05E-02	6.09E-05	5.50E-03	1.02E-04	1.60E-04	0	9.25E-03	6.93E-03	0	1.81E-05	1.29E-01		**1.92E-01**
HLRW	kg	3.71E-07	8.06E-10	3.25E-09	1.35E-09	2.12E-09	0	3.11E-08	1.59E-11	0	2.77E-10	2.98E-10		**3.50E-07**
ILLRW	kg	1.06E-06	1.58E-09	3.53E-07	2.65E-09	4.14E-09	0	1.06E-07	3.69E-11	0	6.34E-10	6.89E-10		**1.53E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0		**0**
MR	kg	2.10E-04	0	0	0	3.05E-03	0	0	0	0	0	0		**3.26E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0		**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0		**0**
Carbon emissions and removals														
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0		**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0		**0**
BCRK	kg CO2	-3.77E-03	0	-5.60E-03	0	0	0	0	0	0	0	0		**-9.37E-03**
BCEK	kg CO2	0	0	3.77E-03	0	0	0	5.60E-03	0	0	0	0		**9.37E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0		**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0		**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0		**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0		**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP^-25 (York, PA)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Maintenance Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.79E-01	1.02E-02	1.05E-02	3.83E-03	1.30E-02	0	2.39E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.44E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.82E-01	1.02E-02	1.24E-02	3.83E-03	1.30E-02	0	1.83E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.44E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.74E-01	1.01E-02	1.08E-02	3.79E-03	1.29E-02	0	2.34E-02	1.16E-04	0	1.56E-03	2.16E-03	**2.38E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.77E-01	1.01E-02	1.26E-02	3.79E-03	1.29E-02	0	1.78E-02	1.16E-04	0	1.56E-03	2.16E-03	**2.38E-01**
Ozone depletion	kg CFC-11 eq	2.52E-09	1.45E-10	3.63E-10	5.44E-11	1.85E-10	0	2.52E-10	3.96E-13	0	2.58E-11	7.39E-12	**3.55E-09**
Acidification	kg SO2 eq	5.88E-04	2.50E-05	4.31E-05	9.36E-07	1.38E-05	0	5.89E-05	9.09E-08	0	7.62E-06	1.70E-06	**7.66E-04**
Eutrophication	kg N eq	7.15E-05	1.70E-06	3.71E-06	6.36E-07	2.16E-06	0	7.17E-06	2.39E-08	0	4.83E-07	4.47E-07	**8.78E-05**
Smog	kg O3 eq	7.64E-03	6.42E-04	4.40E-04	2.40E-04	8.16E-04	0	7.66E-04	1.98E-02	0	2.34E-04	4.69E-05	**3.06E-02**
Respiratory effects	kg PM2.5 eq	9.09E-05	3.44E-06	2.91E-06	1.29E-06	4.38E-06	0	9.10E-06	1.33E-08	0	9.53E-07	2.48E-07	**1.13E-04**
Additional environmental information													
Carcinogenics	CTUh	8.43E-10	6.47E-12	4.38E-11	2.42E-12	8.23E-12	0	8.50E-11	1.00E-12	0	3.34E-13	1.87E-11	**1.01E-09**
Non-carcinogenics	CTUh	9.92E-09	1.25E-09	5.87E-10	4.68E-10	1.59E-09	0	1.04E-09	7.07E-11	0	6.89E-11	1.32E-09	**1.63E-08**
Ecotoxicity	CTUe	7.60E-02	2.55E-02	2.11E-03	9.53E-03	3.24E-02	0	7.68E-03	1.08E-04	0	2.02E-04	2.02E-03	**1.56E-01**
Fossil fuel depletion	MJ surplus	4.43E-01	1.93E-02	1.25E-02	7.22E-03	2.45E-02	0	4.43E-02	4.38E-05	0	2.93E-03	8.18E-04	**5.54E-01**
Resource use indicators													
RPRE	MJ, NCV	9.18E-02	2.23E-04	5.41E-03	8.33E-05	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.07E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	9.18E-02	2.23E-04	5.41E-03	8.33E-05	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.07E-01**
NRPRE	MJ, NCV	3.92E+00	1.45E-01	2.12E-01	5.44E-02	1.85E-01	0	3.92E-01	3.41E-04	0	2.17E-02	6.38E-03	**4.93E+00**
NRPRM	MJ, NCV	1.55E+00	0	0	0	0	0	1.55E-01	0	0	0	0	**1.70E+00**
NRPRtotal	MJ, NCV	5.47E+00	1.45E-01	2.12E-01	5.44E-02	1.85E-01	0	5.47E-01	3.41E-04	0	2.17E-02	6.38E-03	**6.64E+00**
ADP	kg	0	3.50E+00	1.36E-01	1.56E-01	5.11E-02	1.74E-01	0	3.50E-01	3.17E-04	0	2.04E-02	**4.39E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	M3, LHV	3.62E-01	1.08E-03	7.64E-03	4.04E-04	1.37E-03	0	3.62E-02	1.99E-05	0	1.70E-04	3.71E-04	**4.10E-01**
Output flows and waste category indicators													
HWD	kg	4.52E-03	3.17E-05	2.21E-05	1.19E-05	4.04E-05	0	4.52E-04	1.52E-07	0	8.33E-07	2.83E-06	**5.08E-03**
NHWD	kg	4.05E-02	1.26E-04	5.50E-03	4.70E-05	1.60E-05	0	9.25E-03	6.93E-03	0	1.81E-05	1.29E-01	**1.92E-01**
HLRW	kg	3.71E-07	1.66E-09	3.25E-09	6.22E-10	2.12E-09	0	3.11E-08	1.59E-11	0	2.77E-10	2.98E-10	**3.50E-07**
ILLRW	kg	1.06E-06	3.26E-09	4.14E-07	1.22E-09	4.14E-09	0	1.06E-07	3.69E-11	0	6.34E-10	6.89E-10	**1.59E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	2.10E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.26E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-3.77E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-9.37E-03**
BCEK	kg CO2	0	0	3.77E-03	0	0	0	5.60E-03	0	0	0	0	**9.37E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP^-25 (Milton, Ontario, Canada)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.79E-01	2.07E-02	4.54E-03	8.84E-02	1.30E-02	0	2.39E-02	1.31E-04	0	1.58E-03	2.45E-03	**3.33E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.82E-01	2.07E-02	6.36E-03	8.84E-02	1.30E-02	0	1.83E-02	1.31E-04	0	1.58E-03	2.45E-03	**3.33E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.74E-01	2.05E-02	4.88E-03	8.72E-02	1.29E-02	0	2.34E-02	1.16E-04	0	1.56E-03	2.16E-03	**3.26E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.77E-01	2.05E-02	6.70E-03	8.72E-02	1.29E-02	0	1.78E-02	1.16E-04	0	1.56E-03	2.16E-03	**3.26E-01**
Ozone depletion	kg CFC-11 eq	2.52E-09	2.95E-10	4.59E-11	1.54E-09	1.85E-10	0	2.52E-10	3.96E-13	0	2.58E-11	7.39E-12	**4.87E-09**
Acidification	kg SO2 eq	5.88E-04	5.07E-05	1.41E-05	1.87E-04	3.18E-05	0	5.89E-05	9.09E-08	0	7.62E-06	1.70E-06	**9.40E-04**
Eutrophication	kg N eq	7.15E-05	3.44E-06	1.25E-06	1.24E-05	2.16E-06	0	7.17E-06	2.39E-08	0	4.83E-07	4.47E-07	**9.89E-05**
Smog	kg O3 eq	7.64E-03	1.30E-03	2.06E-04	4.45E-03	8.16E-04	0	7.66E-04	1.98E-02	0	2.34E-04	4.69E-05	**3.52E-02**
Respiratory effects	kg PM2.5 eq	9.09E-05	6.98E-06	1.27E-06	2.22E-05	4.38E-06	0	9.10E-06	1.33E-08	0	9.53E-07	2.48E-07	**1.36E-04**
Additional environmental information													
Carcinogenics	CTUh	8.43E-10	1.31E-11	2.92E-11	4.96E-11	8.23E-12	0	8.50E-11	1.00E-12	0	3.34E-13	1.87E-11	**1.05E-09**
Non-carcinogenics	CTUh	9.92E-09	2.53E-09	3.66E-09	4.63E-09	1.59E-09	0	1.04E-09	7.07E-11	0	6.89E-11	1.32E-09	**2.15E-08**
Ecotoxicity	CTUe	7.60E-02	5.16E-02	1.57E-03	8.55E-02	3.24E-02	0	7.68E-03	1.08E-04	0	2.02E-04	2.02E-03	**2.57E-01**
Fossil fuel depletion	MJ surplus	4.43E-01	3.91E-02	7.16E-03	1.61E-01	2.45E-02	0	4.43E-02	4.38E-05	0	2.93E-03	8.18E-04	**7.23E-01**
Resource use indicators													
RPRE	MJ, NCV	9.18E-02	4.51E-04	2.67E-03	3.40E-03	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.08E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	9.18E-02	4.51E-04	2.67E-03	3.40E-03	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.08E-01**
NRPRE	MJ, NCV	3.92E+00	2.94E-01	9.61E-02	1.22E+00	1.85E-01	0	3.92E-01	3.41E-04	0	2.17E-02	6.38E-03	**6.13E+00**
NRPRM	MJ, NCV	1.55E+00	0	0	0	0	0	1.55E-01	0	0	0	0	**1.70E+00**
NRPRtotal	MJ, NCV	5.47E+00	2.94E-01	9.61E-02	1.22E+00	1.85E-01	0	5.47E-01	3.41E-04	0	2.17E-02	6.38E-03	**7.83E+00**
ADP	kg	0	3.50E+00	2.76E-01	8.78E-02	1.14E+00	1.74E-01	0	3.50E-01	3.17E-04	0	2.04E-02	**5.55E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	M3, LHV	3.62E-01	2.19E-03	3.72E-03	1.28E-02	1.37E-03	0	3.62E-02	1.99E-05	0	1.70E-04	3.71E-04	**4.19E-01**
Output flows and waste category indicators													
HWD	kg	4.52E-03	6.43E-05	2.21E-05	1.86E-04	4.04E-05	0	4.52E-04	1.52E-07	0	8.33E-07	2.83E-06	**5.29E-03**
NHWD	kg	4.05E-02	2.54E-04	5.50E-03	1.18E-03	1.60E-04	0	9.25E-03	6.93E-03	0	1.81E-05	1.29E-01	**1.93E-01**
HLRW	kg	3.71E-07	3.37E-09	3.25E-09	2.02E-08	2.12E-09	0	3.11E-08	1.59E-11	0	2.77E-10	2.98E-10	**3.71E-07**
ILLRW	kg	1.06E-06	6.60E-09	1.00E-08	5.58E-08	4.14E-09	0	1.06E-07	3.69E-11	0	6.34E-10	6.89E-10	**1.25E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	2.10E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.26E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-3.77E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-9.37E-03**
BCEK	kg CO2	0	0	3.77E-03	0	0	0	5.60E-03	0	0	0	0	**9.37E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP^-25 (Sherwood, Alberta, Canada)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	1.79E-01	6.43E-03	3.58E-02	8.23E-03	1.30E-02	0	2.39E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.70E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	1.82E-01	6.43E-03	3.76E-02	8.23E-03	1.30E-02	0	1.83E-02	1.31E-04	0	1.58E-03	2.45E-03	**2.70E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	1.74E-01	6.36E-03	3.56E-02	8.13E-03	1.29E-02	0	2.34E-02	1.16E-04	0	1.56E-03	2.16E-03	**2.64E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-3.77E-03	0	-1.83E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	1.77E-01	6.36E-03	3.74E-02	8.13E-03	1.29E-02	0	1.78E-02	1.16E-04	0	1.56E-03	2.16E-03	**2.64E-01**
Ozone depletion	kg CFC-11 eq	2.52E-09	9.14E-11	4.55E-10	1.17E-10	1.85E-10	0	2.52E-10	3.96E-13	0	2.58E-11	7.39E-12	**3.65E-09**

Acidification	kg SO2 eq	5.88E-04	1.57E-05	1.30E-04	2.01E-05	3.18E-05	0	5.89E-05	9.09E-08	0	7.62E-06	1.70E-06	**8.55E-04**
Eutrophication	kg N eq	7.15E-05	1.07E-06	1.14E-05	1.37E-06	2.16E-06	0	7.17E-06	2.39E-08	0	4.83E-07	4.47E-07	**9.56E-05**
Smog	kg O3 eq	7.64E-03	4.03E-04	1.23E-03	5.16E-04	8.16E-04	0	7.66E-04	1.98E-02	0	2.34E-04	4.69E-05	**3.14E-02**
Respiratory effects	kg PM2.5 eq	9.09E-05	2.16E-06	7.75E-06	2.77E-06	4.38E-06	0	9.10E-06	1.33E-08	0	9.53E-07	2.48E-07	**1.18E-04**
Additional environmental information													
Carcinogenics	CTUh	8.43E-10	4.06E-12	8.43E-11	5.20E-12	8.23E-12	0	8.50E-11	1.00E-12	0	3.34E-13	1.87E-11	**1.05E-09**
Non-carcinogenics	CTUh	9.92E-09	7.85E-10	1.30E-09	1.00E-09	1.59E-09	0	1.04E-09	7.07E-11	0	6.89E-11	1.32E-09	**1.71E-08**
Ecotoxicity	CTUe	7.60E-02	1.60E-02	3.35E-03	2.05E-02	3.24E-02	0	7.68E-03	1.08E-04	0	2.02E-04	2.02E-03	**1.58E-01**
Fossil fuel depletion	MJ surplus	4.43E-01	1.21E-02	4.31E-02	1.55E-02	2.45E-02	0	4.43E-02	4.38E-05	0	2.93E-03	8.18E-04	**5.86E-01**
Resource use indicators													
RPRE	MJ, NCV	9.18E-02	1.40E-04	1.98E-02	1.79E-04	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.21E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRotal	MJ, NCV	9.18E-02	1.40E-04	1.98E-02	1.79E-04	2.83E-04	0	9.18E-03	3.00E-06	0	3.91E-05	5.60E-05	**1.21E-01**
NRPRE	MJ, NCV	3.92E+00	9.13E-02	5.00E-01	1.17E-01	1.85E-01	0	3.92E-01	3.41E-04	0	2.17E-02	6.38E-03	**5.23E+00**
NRPRM	MJ, NCV	1.55E+00	0	0	0	0	0	1.55E-01	0	0	0	0	**1.70E+00**
NRPRotal	MJ, NCV	5.47E+00	9.13E-02	5.00E-01	1.17E-01	1.85E-01	0	5.47E-01	3.41E-04	0	2.17E-02	6.38E-03	**6.93E+00**
ADP	kg	0	3.50E+00	8.57E-02	4.58E-01	1.10E-01	1.74E-01	0	3.50E-01	3.17E-04	0	2.04E-02	**4.70E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	M3, LHV	3.62E-01	6.78E-04	4.32E-02	8.67E-04	1.37E-03	0	3.62E-02	1.99E-05	0	1.70E-04	3.71E-04	**4.45E-01**
Output flows and waste category indicators													
HWD	kg	4.52E-03	1.99E-05	2.21E-05	2.55E-05	4.04E-05	0	4.52E-05	1.52E-04	0	8.33E-07	2.83E-07	**5.08E-03**
NHWD	kg	4.05E-02	7.89E-05	5.50E-03	1.01E-04	1.60E-04	0	9.25E-03	6.93E-03	0	1.81E-05	1.29E-01	**1.92E-01**
HLRW	kg	3.11E-07	3.37E-09	3.25E-09	2.02E-08	2.12E-09	0	3.11E-08	1.59E-11	0	2.77E-10	2.98E-10	**3.71E-07**
ILLRW	kg	1.06E-06	6.60E-09	1.00E-08	5.58E-08	4.14E-09	0	1.06E-07	3.69E-11	0	6.34E-10	6.89E-10	**1.25E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	2.10E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.26E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-3.77E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-9.37E-03**
BCEK	kg CO2	0	0	3.77E-03	0	0	0	5.60E-03	0	0	0	0	**9.37E-03**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-30 (Benicia, CA)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	2.10E-01	3.29E-02	1.76E-01	8.45E-03	1.30E-02	0	2.81E-02	1.31E-04	0	1.59E-03	2.45E-03	**4.73E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	2.15E-01	3.29E-02	1.77E-01	8.45E-03	1.30E-02	0	2.25E-02	1.31E-04	0	1.59E-03	2.45E-03	**4.73E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	2.05E-01	3.25E-02	1.72E-01	8.35E-03	1.29E-02	0	2.74E-02	1.16E-04	0	1.57E-03	2.16E-03	**4.61E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	2.09E-01	3.25E-02	1.73E-01	8.35E-03	1.29E-02	0	2.18E-02	1.16E-04	0	1.57E-03	2.16E-03	**4.61E-01**
Ozone depletion	kg CFC-11 eq	9.45E-07	4.67E-10	4.94E-09	1.20E-10	1.85E-10	0	9.45E-08	3.96E-08	0	2.59E-11	7.39E-12	**1.05E-06**
Acidification	kg SO2 eq	6.97E-04	8.02E-05	4.66E-04	2.06E-05	3.18E-05	0	7.04E-05	9.09E-08	0	7.65E-06	1.70E-06	**1.38E-03**
Eutrophication	kg N eq	8.91E-05	5.45E-06	3.64E-05	1.40E-06	2.16E-06	0	9.09E-06	2.39E-08	0	4.84E-07	4.47E-07	**1.45E-04**
Smog	kg O3 eq	9.06E-03	2.06E-03	5.18E-03	5.30E-04	8.16E-04	0	9.25E-04	5.75E-02	0	2.35E-04	4.69E-05	**7.64E-02**
Respiratory effects	kg PM2.5 eq	1.08E-04	1.10E-05	5.33E-05	2.84E-06	4.38E-06	0	1.09E-05	1.33E-08	0	9.56E-07	2.48E-07	**1.92E-04**
Additional environmental information													
Carcinogenics	CTUh	9.81E-10	2.08E-11	2.28E-10	5.34E-12	8.23E-12	0	1.06E-10	1.00E-12	0	3.35E-13	1.87E-11	**1.37E-09**
Non-carcinogenics	CTUh	1.14E-08	4.01E-09	4.52E-09	1.03E-09	1.59E-09	0	1.68E-09	7.07E-11	0	6.91E-11	1.32E-09	**2.57E-08**
Ecotoxicity	CTUe	8.98E-02	8.17E-02	2.59E-02	2.10E-02	3.24E-02	0	9.79E-03	1.08E-04	0	2.02E-04	2.02E-03	**2.63E-01**
Fossil fuel depletion	MJ surplus	5.18E-01	6.19E-02	4.59E-01	1.59E-02	2.45E-02	0	5.21E-02	4.38E-05	0	2.94E-03	8.18E-04	**1.14E+00**
Resource use indicators													
RPRE	MJ, NCV	1.07E-01	7.14E-04	4.00E-01	1.84E-04	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**5.19E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRotal	MJ, NCV	1.07E-01	7.14E-04	4.00E-01	1.84E-04	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**5.19E-01**
NRPRE	MJ, NCV	4.60E+00	4.66E-01	4.08E+00	1.20E-01	1.85E-01	0	4.63E-01	3.41E-04	0	2.18E-02	6.38E-03	**9.94E+00**
NRPRM	MJ, NCV	1.82E+00	0	0	0	0	0	1.82E-01	0	0	0	0	**2.00E+00**
NRPRotal	MJ, NCV	6.42E+00	4.66E-01	4.08E+00	1.20E-01	1.85E-01	0	6.45E-01	3.41E-04	0	2.18E-02	6.38E-03	**1.19E+01**
ADP	kg	0	4.11E+00	4.38E-01	3.43E+00	1.13E-01	1.74E-01	0	4.13E-01	3.17E-04	0	2.04E-02	**8.69E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	M3, LHV	4.34E-01	3.46E-03	7.57E-01	8.91E-04	1.37E-03	0	4.36E-02	1.99E-05	0	1.71E-04	3.71E-04	**1.24E+00**
Output flows and waste category indicators													
HWD	kg	2.35E-03	1.92E-06	7.67E-04	4.95E-07	7.62E-07	0	2.38E-04	4.52E-07	0	7.89E-07	8.45E-06	**3.37E-03**
NHWD	kg	2.60E-04	4.34E-05	4.14E-03	1.12E-05	1.71E-05	0	2.63E-02	4.12E-03	0	6.20E-03	7.70E-06	**4.50E-03**
HLRW	kg	3.11E-07	4.63E-09	3.25E-09	1.68E-09	2.12E-09	0	3.11E-08	1.59E-11	0	2.77E-10	1.98E-10	**3.54E-07**
ILLRW	kg	1.06E-06	9.08E-09	2.87E-06	3.29E-09	4.14E-09	0	1.06E-07	3.69E-11	0	6.34E-10	6.89E-10	**4.05E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.48E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-4.45E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-1.00E-02**
BCEK	kg CO2	0	0	4.45E-03	0	0	0	5.60E-03	0	0	0	0	**1.00E-02**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-30 (Cartersville, GA)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	2.10E-01	5.70E-03	8.25E-02	1.05E-02	1.30E-02	0	2.81E-02	1.31E-04	0	1.59E-03	2.45E-03	**3.54E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	2.15E-01	5.70E-03	8.36E-02	1.05E-02	1.30E-02	0	2.25E-02	1.31E-04	0	1.59E-03	2.45E-03	**3.54E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	2.05E-01	5.63E-03	8.05E-02	1.03E-02	1.29E-02	0	2.74E-02	1.16E-04	0	1.57E-03	2.16E-03	**3.45E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	2.09E-01	5.63E-03	8.17E-02	1.03E-02	1.29E-02	0	2.18E-02	1.16E-04	0	1.57E-03	2.16E-03	**3.45E-01**
Ozone depletion	kg CFC-11 eq	9.45E-07	8.09E-11	2.71E-09	1.49E-10	1.85E-10	0	9.45E-08	3.96E-13	0	2.59E-11	7.39E-12	**1.04E-06**
Acidification	kg SO2 eq	6.97E-04	1.39E-05	2.46E-04	2.55E-05	3.18E-05	0	7.04E-05	9.09E-08	0	7.65E-06	1.70E-06	**1.09E-03**
Eutrophication	kg N eq	8.91E-05	9.46E-07	2.32E-05	1.74E-06	2.16E-06	0	9.09E-06	2.39E-08	0	4.84E-07	4.47E-07	**1.27E-04**
Smog	kg O3 eq	9.06E-03	3.57E-04	3.26E-03	6.55E-04	8.16E-04	0	9.25E-04	5.75E-02	0	2.35E-04	4.69E-05	**7.29E-02**
Respiratory effects	kg PM2.5 eq	1.08E-04	1.92E-06	3.77E-05	3.52E-06	4.38E-06	0	1.09E-05	1.33E-08	0	9.56E-07	2.48E-07	**1.68E-04**
Additional environmental information													
Carcinogenics	CTUh	9.81E-10	3.60E-12	1.35E-10	6.61E-12	8.23E-12	0	1.06E-10	1.00E-12	0	3.35E-13	1.87E-11	**1.26E-09**
Non-carcinogenics	CTUh	1.14E-08	6.95E-10	2.55E-09	1.28E-09	1.59E-09	0	1.68E-09	7.07E-11	0	6.91E-11	1.32E-09	**2.07E-08**
Ecotoxicity	CTUe	8.98E-02	1.42E-02	2.25E-02	2.60E-02	3.24E-02	0	9.79E-03	1.08E-04	0	2.02E-04	2.02E-03	**1.97E-01**
Fossil fuel depletion	MJ surplus	5.18E-01	1.07E-02	2.78E-01	1.97E-02	2.45E-02	0	5.21E-02	4.38E-05	0	2.94E-03	8.18E-04	**9.07E-01**
Resource use indicators													
RPRE	MJ, NCV	1.07E-01	1.24E-04	3.81E-02	2.27E-04	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.57E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRotal	MJ, NCV	1.07E-01	1.24E-04	3.81E-02	2.27E-04	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.57E-01**
NRPRE	MJ, NCV	4.60E+00	8.09E-02	2.36E+00	1.48E-01	1.85E-01	0	4.63E-01	3.41E-04	0	2.18E-02	6.38E-03	**7.87E+00**
NRPRM	MJ, NCV	1.82E+00	0	0	0	0	0	1.82E-01	0	0	0	0	**2.00E+00**
NRPRotal	MJ, NCV	6.42E+00	8.09E-02	2.36E+00	1.48E-01	1.85E-01	0	6.45E-01	3.41E-04	0	2.18E-02	6.38E-03	**9.87E+00**
ADP	kg	0	4.11E+00	7.59E-02	2.14E+00	1.29E-01	1.74E-01	0	4.13E-01	3.17E-04	0	2.04E-02	**7.07E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	M3, LHV	4.34E-01	6.00E-04	1.81E-01	1.10E-03	1.37E-03	0	4.36E-02	1.99E-05	0	1.71E-04	3.71E-04	**6.63E-01**
Output flows and waste category indicators													
HWD	kg	2.35E-03	3.33E-07	7.67E-04	6.12E-07	7.62E-07	0	2.38E-04	4.52E-07	0	7.89E-07	8.45E-06	**3.37E-03**
NHWD	kg	2.60E-01	7.53E-03	2.65E-01	1.38E-02	1.72E-02	0	2.63E-02	4.12E-03	0	6.20E-03	7.70E-06	**5.96E-01**
HLRW	kg	3.76E-07	5.34E-09	1.99E-07	1.37E-09	2.12E-09	0	3.78E-08	1.59E-11	0	2.78E-10	2.98E-10	**6.22E-07**
ILLRW	kg	1.26E-06	1.05E-08	3.37E-06	2.69E-09	4.14E-09	0	1.26E-07	3.69E-11	0	6.36E-10	6.89E-10	**4.77E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.48E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-4.45E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-1.00E-02**

Parameters	Unit	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	Total
BCEK	kg CO2	0	0	4.45E-03	0	0	0	5.60E-03	0	0	0	0	**1.00E-02**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-30 (Forth Worth, TX)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	2.10E-01	2.08E-02	8.31E-02	1.55E-03	1.30E-02	0	2.81E-02	1.31E-04	0	1.59E-03	2.45E-03	**3.61E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	2.15E-01	2.08E-02	8.43E-02	1.55E-03	1.30E-02	0	2.25E-02	1.31E-04	0	1.59E-03	2.45E-03	**3.61E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	2.05E-01	2.05E-02	8.11E-02	1.53E-03	1.29E-02	0	2.74E-02	1.16E-04	0	1.57E-03	2.16E-03	**3.52E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	2.09E-01	2.05E-02	8.23E-02	1.53E-03	1.29E-02	0	2.18E-02	1.16E-04	0	1.57E-03	2.16E-03	**3.52E-01**
Ozone depletion	kg CFC-11 eq	9.45E-07	2.95E-10	2.70E-09	2.20E-11	1.85E-10	0	9.45E-08	3.96E-13	0	2.59E-11	7.39E-12	**1.04E-06**
Acidification	kg SO2 eq	6.97E-04	5.07E-05	2.48E-04	3.78E-06	3.18E-05	0	7.04E-05	9.09E-08	0	7.65E-06	1.70E-06	**1.11E-03**
Eutrophication	kg N eq	8.91E-05	3.45E-06	2.34E-05	2.57E-07	2.16E-06	0	9.09E-06	2.39E-08	0	4.84E-07	4.47E-07	**1.28E-04**
Smog	kg O3 eq	9.06E-03	1.30E-03	3.28E-03	9.69E-05	8.16E-04	0	9.25E-04	5.75E-02	0	2.35E-04	4.69E-05	**7.33E-02**
Respiratory effects	kg PM2.5 eq	1.08E-04	6.98E-06	3.78E-05	5.20E-07	4.38E-06	0	1.09E-05	1.33E-08	0	9.56E-07	2.48E-07	**1.70E-04**
Additional environmental information													
Carcinogenics	CTUh	9.81E-10	1.31E-11	1.35E-10	9.78E-13	8.23E-12	0	1.06E-10	1.00E-12	0	3.35E-13	1.87E-11	**1.26E-09**
Non-carcinogenics	CTUh	1.14E-08	2.53E-09	2.54E-09	1.89E-10	1.59E-09	0	1.68E-09	7.07E-11	0	6.91E-11	1.32E-09	**2.14E-08**
Ecotoxicity	CTUe	8.98E-02	5.17E-02	2.25E-02	3.85E-03	3.24E-02	0	9.79E-03	1.08E-04	0	2.02E-04	2.02E-03	**2.12E-01**
Fossil fuel depletion	MJ surplus	5.18E-01	3.91E-02	2.79E-01	2.91E-03	2.45E-02	0	5.21E-02	4.38E-05	0	2.94E-03	8.18E-04	**9.19E-01**
Resource use indicators													
RPRE	MJ, NCV	1.07E-01	4.52E-04	4.06E-02	3.36E-05	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.60E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	1.07E-01	4.52E-04	4.06E-02	3.36E-05	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.60E-01**
NRPRE	MJ, NCV	4.60E+00	2.95E-01	2.37E+00	2.20E-02	1.85E-01	0	4.63E-01	3.41E-04	0	2.18E-02	6.38E-03	**7.96E+00**
NRPRM	MJ, NCV	1.82E+00	0	0	0	0	0	1.82E-01	0	0	0	0	**2.00E+00**
NRPRtotal	MJ, NCV	6.42E+00	2.95E-01	2.37E+00	2.20E-02	1.85E-01	0	6.45E-01	3.41E-04	0	2.18E-02	6.38E-03	**9.96E+00**
ADP	kg	0	4.11E+00	2.77E-01	2.15E+00	2.06E-02	1.74E-01	0	4.13E-01	3.17E-04	0	2.04E-02	**7.16E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	4.34E-01	2.19E-03	1.77E-01	1.63E-04	1.37E-03	0	4.36E-02	1.99E-05	0	1.71E-04	3.71E-04	**6.59E-01**
Output flows and waste category indicators													
HWD	kg	2.35E-03	1.22E-06	7.67E-04	9.05E-08	7.62E-07	0	2.38E-04	4.52E-07	0	7.89E-07	8.45E-06	**3.37E-03**
NHWD	kg	2.60E-01	2.75E-02	2.82E-01	2.05E-03	1.72E-02	0	2.63E-02	4.12E-05	0	6.20E-03	7.70E-04	**6.22E-01**
HLRW	kg	3.76E-07	3.37E-09	1.99E-07	2.51E-10	2.12E-09	0	3.78E-08	1.59E-11	0	2.78E-10	2.98E-10	**6.19E-07**
ILLRW	kg	1.26E-06	6.60E-09	5.68E-07	4.92E-10	4.14E-09	0	1.26E-07	3.69E-11	0	6.36E-10	6.89E-10	**1.96E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.48E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-4.45E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-1.00E-02**
BCEK	kg CO2	0	0	4.45E-03	0	0	0	5.60E-03	0	0	0	0	**1.00E-02**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-30 (Goodyear, AZ)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	2.10E-01	2.30E-02	9.84E-02	9.31E-03	1.30E-02	0	2.81E-02	1.31E-04	0	1.59E-03	2.45E-03	**3.86E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	2.15E-01	2.30E-02	9.96E-02	9.31E-03	1.30E-02	0	2.25E-02	1.31E-04	0	1.59E-03	2.45E-03	**3.86E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	2.05E-01	2.28E-02	9.61E-02	9.20E-03	1.29E-02	0	2.74E-02	1.16E-04	0	1.57E-03	2.16E-03	**3.77E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	2.09E-01	2.28E-02	9.73E-02	9.20E-03	1.29E-02	0	2.18E-02	1.16E-04	0	1.57E-03	2.16E-03	**3.77E-01**
Ozone depletion	kg CFC-11 eq	9.45E-07	3.27E-10	3.26E-09	1.32E-10	1.85E-10	0	9.45E-08	3.96E-13	0	2.59E-11	7.39E-12	**1.04E-06**
Acidification	kg SO2 eq	6.97E-04	5.63E-05	2.92E-04	2.27E-05	3.18E-05	0	7.04E-05	9.09E-08	0	7.65E-06	1.70E-06	**1.18E-03**
Eutrophication	kg N eq	8.91E-05	3.83E-06	2.71E-05	1.55E-06	2.16E-06	0	9.09E-06	2.39E-08	0	4.84E-07	4.47E-07	**1.34E-04**
Smog	kg O3 eq	9.06E-03	1.44E-03	3.69E-03	5.83E-04	8.16E-04	0	9.25E-04	5.75E-02	0	2.35E-04	4.69E-05	**7.43E-02**
Respiratory effects	kg PM2.5 eq	1.08E-04	7.75E-06	4.02E-05	3.13E-06	4.38E-06	0	1.09E-05	1.33E-08	0	9.56E-07	2.48E-07	**1.76E-04**
Additional environmental information													
Carcinogenics	CTUh	9.81E-10	1.46E-11	1.57E-10	5.88E-12	8.23E-12	0	1.06E-10	1.00E-12	0	3.35E-13	1.87E-11	**1.29E-09**
Non-carcinogenics	CTUh	1.14E-08	2.81E-09	2.87E-09	1.14E-09	1.59E-09	0	1.68E-09	7.07E-11	0	6.91E-11	1.32E-09	**2.30E-08**
Ecotoxicity	CTUe	8.98E-02	5.73E-02	2.33E-02	2.32E-02	3.24E-02	0	9.79E-03	1.08E-04	0	2.02E-04	2.02E-03	**2.38E-01**
Fossil fuel depletion	MJ surplus	5.18E-01	4.34E-02	3.01E-01	1.75E-02	2.45E-02	0	5.21E-02	4.38E-05	0	2.94E-03	8.18E-04	**9.61E-01**
Resource use indicators													
RPRE	MJ, NCV	1.07E-01	5.01E-04	5.61E-02	2.02E-04	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.75E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	1.07E-01	5.01E-04	5.61E-02	2.02E-04	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.75E-01**
NRPRE	MJ, NCV	4.60E+00	3.27E-01	2.67E+00	1.32E-01	1.85E-01	0	4.63E-01	3.41E-04	0	2.18E-02	6.38E-03	**8.41E+00**
NRPRM	MJ, NCV	1.82E+00	0	0	0	0	0	1.82E-01	0	0	0	0	**2.00E+00**
NRPRtotal	MJ, NCV	6.42E+00	3.27E-01	2.67E+00	1.32E-01	1.85E-01	0	6.45E-01	3.41E-04	0	2.18E-02	6.38E-03	**1.04E+01**
ADP	kg	0	4.11E+00	3.07E-01	2.34E+00	1.24E-01	1.74E-01	0	4.13E-01	3.17E-04	0	2.04E-02	**7.49E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	4.34E-01	2.43E-03	2.21E-01	9.81E-04	1.37E-03	0	4.36E-02	1.99E-05	0	1.71E-04	3.71E-04	**7.04E-01**
Output flows and waste category indicators													
HWD	kg	2.35E-03	1.35E-06	7.67E-04	5.45E-07	7.62E-07	0	2.38E-04	4.52E-07	0	7.89E-07	8.45E-06	**3.37E-03**
NHWD	kg	2.60E-04	3.05E-05	7.59E-04	1.23E-05	1.72E-05	0	2.63E-05	4.12E-08	0	6.20E-06	7.70E-07	**1.11E-03**
HLRW	kg	3.76E-07	3.74E-09	1.99E-07	1.51E-09	2.12E-09	0	3.78E-08	1.59E-11	0	2.78E-10	2.98E-10	**6.21E-07**
ILLRW	kg	1.26E-06	7.33E-09	1.46E-06	2.96E-09	4.14E-09	0	1.26E-07	3.69E-11	0	6.36E-10	6.89E-10	**2.86E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.48E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-4.45E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-1.00E-02**
BCEK	kg CO2	0	0	4.45E-03	0	0	0	5.60E-03	0	0	0	0	**1.00E-02**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-30 (Hampshire, IL)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	2.10E-01	5.70E-03	8.53E-02	6.54E-03	1.30E-02	0	2.81E-02	1.31E-04	0	1.59E-03	2.45E-03	**3.53E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	2.15E-01	5.70E-03	8.65E-02	6.54E-03	1.30E-02	0	2.25E-02	1.31E-04	0	1.59E-03	2.45E-03	**3.53E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	2.05E-01	5.63E-03	8.33E-02	6.46E-03	1.29E-02	0	2.74E-02	1.16E-04	0	1.57E-03	2.16E-03	**3.44E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	2.09E-01	5.63E-03	8.45E-02	6.46E-03	1.29E-02	0	2.18E-02	1.16E-04	0	1.57E-03	2.16E-03	**3.44E-01**
Ozone depletion	kg CFC-11 eq	9.45E-07	8.09E-11	2.90E-09	9.29E-11	1.85E-10	0	9.45E-08	3.96E-13	0	2.59E-11	7.39E-12	**1.04E-06**
Acidification	kg SO2 eq	6.97E-04	1.39E-05	2.63E-04	1.60E-05	3.18E-05	0	7.04E-05	9.09E-08	0	7.65E-06	1.70E-06	**1.10E-03**
Eutrophication	kg N eq	8.91E-05	9.46E-07	2.47E-05	1.09E-06	2.16E-06	0	9.09E-06	2.39E-08	0	4.84E-07	4.47E-07	**1.28E-04**
Smog	kg O3 eq	9.06E-03	3.57E-04	3.40E-03	4.10E-04	8.16E-04	0	9.25E-04	5.75E-02	0	2.35E-04	4.69E-05	**7.27E-02**
Respiratory effects	kg PM2.5 eq	1.08E-04	1.92E-06	3.86E-05	2.20E-06	4.38E-06	0	1.09E-05	1.33E-08	0	9.56E-07	2.48E-07	**1.68E-04**
Additional environmental information													
Carcinogenics	CTUh	9.81E-10	3.60E-12	1.43E-10	4.13E-12	8.23E-12	0	1.06E-10	1.00E-12	0	3.35E-13	1.87E-11	**1.27E-09**
Non-carcinogenics	CTUh	1.14E-08	6.95E-10	2.66E-09	7.98E-10	1.59E-09	0	1.68E-09	7.07E-11	0	6.91E-11	1.32E-09	**2.03E-08**
Ecotoxicity	CTUe	8.98E-02	1.42E-02	2.28E-02	1.63E-02	3.24E-02	0	9.79E-03	1.08E-04	0	2.02E-04	2.02E-03	**1.88E-01**
Fossil fuel depletion	MJ surplus	5.18E-01	1.07E-02	2.79E-01	1.23E-02	2.45E-02	0	5.21E-02	4.38E-05	0	2.94E-03	8.18E-04	**9.01E-01**
Resource use indicators													
RPRE	MJ, NCV	1.07E-01	1.24E-04	3.81E-02	1.42E-04	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.57E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	1.07E-01	1.24E-04	3.81E-02	1.42E-04	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.57E-01**
NRPRE	MJ, NCV	4.60E+00	8.09E-02	2.42E+00	9.28E-02	1.85E-01	0	4.63E-01	3.41E-04	0	2.18E-02	6.38E-03	**7.87E+00**
NRPRM	MJ, NCV	1.82E+00	0	0	0	0	0	1.82E-01	0	0	0	0	**2.00E+00**
NRPRtotal	MJ, NCV	6.42E+00	8.09E-02	2.42E+00	9.28E-02	1.85E-01	0	6.45E-01	3.41E-04	0	2.18E-02	6.38E-03	**9.87E+00**
ADP	kg	0	4.11E+00	7.59E-02	2.17E+00	8.71E-02	1.74E-01	0	4.13E-01	3.17E-04	0	2.04E-02	**7.05E+00**

SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	4.34E-01	6.00E-04	1.80E-01	6.89E-04	1.37E-03	0	4.36E-02	1.99E-05	0	1.71E-04	3.71E-04		**6.61E-01**
Output flows and waste category indicators														
HWD	kg	2.35E-03	3.33E-07	7.67E-04	3.83E-07	7.62E-07	0	2.38E-04	4.52E-05	0	7.89E-07	8.45E-06		**3.37E-03**
NHWD	kg	2.60E-01	7.53E-03	2.77E-01	8.64E-03	1.72E-02	0	2.63E-02	4.12E-05	0	6.20E-03	7.70E-04		**6.03E-01**
HLRW	kg	3.76E-07	9.25E-10	1.99E-07	1.06E-09	2.12E-09	0	3.78E-08	1.59E-11	0	2.78E-10	2.98E-10		**6.17E-07**
ILLRW	kg	1.26E-06	1.81E-09	8.34E-07	2.08E-09	4.14E-09	0	1.26E-07	3.69E-11	0	6.36E-10	6.89E-10		**2.23E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	3.05E-03	0	0	0	0	0	0	0	**3.48E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals														
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-4.45E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	0	**-1.00E-02**
BCEK	kg CO2	0	0	4.45E-03	0	0	0	5.60E-03	0	0	0	0	0	**1.00E-02**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-30 (York, PA)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	2.10E-01	1.15E-02	8.62E-02	2.62E-02	1.30E-02	0	2.81E-02	1.31E-04	0	1.59E-03	2.45E-03	**3.79E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	2.15E-01	1.15E-02	8.73E-02	2.62E-02	1.30E-02	0	2.25E-02	1.31E-04	0	1.59E-03	2.45E-03	**3.79E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	2.05E-01	1.13E-02	8.42E-02	2.59E-02	1.29E-02	0	2.74E-02	1.16E-04	0	1.57E-03	2.36E-03	**3.70E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	2.09E-01	1.13E-02	8.53E-02	2.59E-02	1.29E-02	0	2.18E-02	1.16E-04	0	1.57E-03	2.36E-03	**3.70E-01**
Ozone depletion	kg CFC-11 eq	9.45E-07	1.63E-10	2.95E-09	3.72E-10	1.85E-10	0	9.45E-08	3.96E-13	0	2.59E-11	7.39E-12	**1.04E-06**
Acidification	kg SO2 eq	6.97E-04	2.80E-05	2.67E-04	6.39E-05	3.18E-05	0	7.04E-05	9.09E-08	0	7.65E-06	1.70E-06	**1.17E-03**
Eutrophication	kg N eq	8.91E-05	1.90E-06	2.51E-05	4.34E-06	2.16E-06	0	9.09E-06	2.39E-08	0	4.84E-07	4.47E-07	**1.33E-04**
Smog	kg O3 eq	9.06E-03	7.19E-04	3.43E-03	1.64E-03	8.16E-04	0	9.25E-04	5.75E-04	0	2.35E-04	4.69E-05	**7.44E-02**
Respiratory effects	kg PM2.5 eq	1.08E-04	3.86E-06	3.89E-05	8.80E-06	4.38E-06	0	1.09E-05	1.33E-08	0	9.56E-07	2.48E-07	**1.76E-04**
Additional environmental information													
Carcinogenics	CTUh	9.81E-10	7.25E-12	1.46E-10	1.65E-11	8.23E-12	0	1.06E-10	1.00E-12	0	3.35E-13	1.87E-11	**1.28E-09**
Non-carcinogenics	CTUh	1.14E-08	1.40E-09	2.69E-09	3.19E-09	1.59E-09	0	1.68E-09	7.07E-11	0	6.91E-11	1.32E-09	**2.35E-08**
Ecotoxicity	CTUe	8.98E-02	2.85E-02	2.29E-02	6.51E-02	3.24E-02	0	9.79E-03	1.08E-04	0	2.02E-04	2.02E-03	**2.51E-01**
Fossil fuel depletion	MJ surplus	5.18E-01	2.16E-02	2.80E-01	4.93E-02	2.45E-02	0	5.21E-02	4.38E-05	0	2.94E-03	8.18E-04	**9.50E-01**
Resource use indicators													
RPRE	MJ, NCV	1.07E-01	2.49E-04	3.85E-02	5.69E-04	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.58E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	1.07E-01	2.49E-04	3.85E-02	5.69E-04	2.83E-04	0	1.08E-02	3.00E-02	0	3.93E-05	5.60E-05	**1.58E-01**
NRPRE	MJ, NCV	4.60E+00	1.63E-01	2.43E+00	3.7E-01	1.85E-01	0	4.63E-01	3.41E-04	0	2.18E-02	6.38E-03	**8.25E+00**
NRPRM	MJ, NCV	1.82E+00	0	0	0	0	0	1.82E-01	0	0	0	0	**2.00E+00**
NRPRtotal	MJ, NCV	6.42E+00	1.63E-01	2.43E+00	3.7E-01	1.85E-01	0	6.45E-01	3.41E-04	0	2.18E-02	6.38E-03	**1.02E+01**
ADP	kg	0	4.11E+00	3.07E-01	2.1E+00	6.96E-11	1.74E-01	0	4.13E-01	3.17E-04	0	2.04E-02	**7.83E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	4.34E-01	1.21E-03	1.81E-01	2.76E-03	1.37E-03	0	4.36E-02	1.99E-05	0	1.71E-04	3.71E-04	**6.64E-01**
Output flows and waste category indicators													
HWD	kg	2.35E-03	6.71E-07	7.67E-04	1.53E-06	7.62E-07	0	2.38E-04	4.52E-05	0	7.89E-07	8.45E-06	**3.37E-03**
NHWD	kg	2.60E-01	1.52E-02	2.90E-01	3.46E-02	1.72E-02	0	2.63E-02	4.12E-05	0	6.20E-03	7.70E-04	**6.50E-01**
HLRW	kg	3.11E-07	4.63E-09	3.25E-09	1.68E-09	2.12E-09	0	3.11E-08	1.59E-11	0	2.77E-10	2.98E-10	**3.54E-07**
ILLRW	kg	1.06E-06	9.08E-09	2.87E-06	3.29E-09	4.14E-09	0	1.06E-07	3.69E-11	0	6.34E-10	6.89E-10	**4.05E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.48E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-4.45E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-1.00E-02**
BCEK	kg CO2	0	0	4.45E-03	0	0	0	5.60E-03	0	0	0	0	**1.00E-02**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-30 (Milton, Ontario, Canada)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	2.10E-01	2.30E-02	8.03E-02	5.44E-02	1.30E-02	0	2.81E-02	1.31E-04	0	1.59E-03	2.45E-03	**4.13E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	2.15E-01	2.30E-02	8.15E-02	5.44E-02	1.30E-02	0	2.25E-02	1.31E-04	0	1.59E-03	2.45E-03	**4.13E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	2.05E-01	2.28E-02	7.84E-02	5.37E-02	1.29E-02	0	2.74E-02	1.16E-04	0	1.57E-03	2.36E-03	**4.04E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	2.09E-01	2.28E-02	7.95E-02	5.37E-02	1.29E-02	0	2.18E-02	1.16E-04	0	1.57E-03	2.36E-03	**4.04E-01**
Ozone depletion	kg CFC-11 eq	9.45E-07	3.27E-10	2.64E-09	9.83E-10	1.85E-10	0	9.45E-08	3.96E-13	0	2.59E-11	7.39E-12	**1.04E-06**
Acidification	kg SO2 eq	6.97E-04	5.63E-05	2.39E-04	1.12E-04	3.18E-05	0	7.04E-05	9.09E-08	0	7.65E-06	1.70E-06	**1.22E-03**
Eutrophication	kg N eq	8.91E-05	3.83E-06	2.27E-05	7.37E-06	2.16E-06	0	9.09E-06	2.39E-08	0	4.84E-07	4.47E-07	**1.35E-04**
Smog	kg O3 eq	9.06E-03	1.44E-03	3.20E-03	2.62E-03	8.16E-04	0	9.25E-04	5.75E-04	0	2.35E-04	4.69E-04	**7.58E-02**
Respiratory effects	kg PM2.5 eq	1.08E-04	7.75E-06	3.73E-05	1.28E-05	4.38E-06	0	1.09E-05	1.33E-08	0	9.56E-07	2.48E-07	**1.83E-04**
Additional environmental information													
Carcinogenics	CTUh	9.81E-10	1.46E-11	1.31E-10	2.98E-11	8.23E-12	0	1.06E-10	1.00E-12	0	3.35E-13	1.87E-11	**1.29E-09**
Non-carcinogenics	CTUh	1.14E-08	2.81E-09	2.47E-09	2.18E-09	1.59E-09	0	1.68E-09	7.07E-11	0	6.91E-11	1.32E-09	**2.36E-08**
Ecotoxicity	CTUe	8.98E-02	5.73E-02	2.23E-02	3.80E-02	3.24E-02	0	9.79E-03	1.08E-04	0	2.02E-04	2.02E-03	**2.52E-01**
Fossil fuel depletion	MJ surplus	5.18E-01	4.34E-02	2.75E-01	9.88E-02	2.45E-02	0	5.21E-02	4.38E-05	0	2.94E-03	8.18E-04	**1.02E+00**
Resource use indicators													
RPRE	MJ, NCV	1.07E-01	5.01E-04	3.58E-02	2.26E-03	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.57E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	1.07E-01	5.01E-04	3.58E-02	2.26E-03	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.57E-01**
NRPRE	MJ, NCV	4.60E+00	3.27E-01	2.32E+00	7.44E-01	1.85E-01	0	4.63E-01	3.41E-04	0	2.18E-02	6.38E-03	**8.67E+00**
NRPRM	MJ, NCV	1.82E+00	0	0	0	0	0	1.82E-01	0	0	0	0	**2.00E+00**
NRPRtotal	MJ, NCV	6.42E+00	3.27E-01	2.32E+00	7.44E-01	1.85E-01	0	6.45E-01	3.41E-04	0	2.18E-02	6.38E-03	**1.07E+01**
ADP	kg	0	4.11E+00	1.18E+00	2.48E+00	4.98E-02	1.74E-01	0	4.13E-01	3.17E-04	0	2.04E-02	**8.43E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	4.34E-01	2.43E-03	1.78E-01	8.24E-03	1.37E-03	0	4.36E-02	1.99E-05	0	1.71E-04	3.71E-04	**6.68E-01**
Output flows and waste category indicators													
HWD	kg	2.35E-03	1.35E-06	7.67E-04	2.40E-05	7.62E-07	0	2.38E-04	4.52E-05	0	7.89E-07	8.45E-06	**3.39E-03**
NHWD	kg	2.60E-01	3.05E-02	1.99E-01	8.65E-02	1.72E-02	0	2.63E-02	4.12E-05	0	6.20E-03	7.70E-04	**6.27E-01**
HLRW	kg	7.84E-09	6.15E-11	4.17E-09	3.14E-10	3.48E-11	0	7.86E-10	1.31E-13	0	5.34E-12	5.79E-12	**1.32E-08**
ILLRW	kg	1.63E-06	1.10E-08	7.03E-07	5.02E-08	6.22E-09	0	1.63E-07	5.25E-11	0	9.08E-10	9.81E-10	**2.56E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.48E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-4.45E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-1.00E-02**
BCEK	kg CO2	0	0	4.45E-03	0	0	0	5.60E-03	0	0	0	0	**1.00E-02**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit (1m2) of VOCOMP®-30 (Sherwood, Alberta, Canada)

Parameters	Unit	Stage 1 - Product Stage			Stage 2 - Design & Construction Stage			Stage 3 - Use & Maintenance Stage			Stage 4 - End-of-Life Stage		Total
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	
LCIA results													
GWP, IPCCTOTAL	kg CO2 eq	2.10E-01	8.89E-02	1.11E-01	3.74E-03	1.30E-02	0	2.81E-02	1.31E-04	0	1.59E-03	2.45E-03	**4.59E-01**
GWP, IPCCBIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, IPCCFOSSIL	kg CO2 eq	2.15E-01	8.89E-02	1.12E-01	3.74E-03	1.30E-02	0	2.25E-02	1.31E-04	0	1.59E-03	2.45E-03	**4.59E-01**
GWP, TRACI 2.1TOTAL	kg CO2 eq	2.05E-01	8.79E-02	1.08E-01	3.70E-03	1.29E-02	0	2.74E-02	1.16E-04	0	1.57E-03	2.36E-03	**4.49E-01**
GWP, TRACI 2.1BIOGENIC	kg CO2 eq	-4.45E-03	0	-1.15E-03	0	0	0	5.60E-03	0	0	0	0	**0**
GWP, TRACI 2.1FOSSIL	kg CO2 eq	2.09E-01	8.79E-02	1.10E-01	3.70E-03	1.29E-02	0	2.18E-02	1.16E-04	0	1.57E-03	2.36E-03	**4.49E-01**
Ozone depletion	kg CFC-11 eq	9.45E-07	1.26E-09	3.04E-09	5.31E-11	1.85E-10	0	9.45E-08	3.96E-13	0	2.59E-11	7.39E-12	**1.04E-06**
Acidification	kg SO2 eq	6.97E-04	2.17E-04	3.53E-04	9.13E-06	3.18E-05	0	7.04E-05	9.09E-08	0	7.65E-06	1.70E-06	**1.39E-03**
Eutrophication	kg N eq	8.91E-05	1.48E-05	3.26E-05	6.21E-07	2.16E-06	0	9.09E-06	2.39E-08	0	4.84E-07	4.47E-07	**1.49E-04**

Smog	kg O3 eq	9.06E-03	5.57E-03	4.20E-03	2.34E-04	8.16E-04	0	9.25E-04	5.75E-02	0	2.35E-04	4.69E-05	**7.86E-02**
Respiratory effects	kg PM2.5 eq	1.08E-04	2.99E-05	4.36E-05	1.26E-06	4.38E-06	0	1.09E-05	1.33E-08	0	9.56E-07	2.48E-07	**2.00E-04**
Additional environmental information													
Carcinogenics	CTUh	9.81E-10	5.62E-11	1.85E-10	2.36E-12	8.23E-12	0	1.06E-10	1.00E-12	0	3.35E-13	1.87E-11	**1.36E-09**
Non-carcinogenics	CTUh	1.14E-08	1.09E-08	3.39E-09	4.57E-10	1.59E-09	0	1.68E-09	7.07E-11	0	6.91E-11	1.32E-09	**3.09E-08**
Ecotoxicity	CTUe	8.98E-02	2.21E-01	2.41E-02	9.30E-03	3.24E-02	0	9.79E-03	1.08E-04	0	2.02E-04	2.02E-03	**3.89E-01**
Fossil fuel depletion	MJ surplus	5.18E-01	1.67E-01	3.10E-01	7.05E-03	2.45E-02	0	5.21E-02	4.38E-05	0	2.94E-03	8.18E-04	**1.08E+00**
Resource use indicators													
RPRE	MJ, NCV	1.07E-01	1.93E-03	5.27E-02	8.13E-05	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.73E-01**
RPRM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RPRtotal	MJ, NCV	1.07E-01	1.93E-03	5.27E-02	8.13E-05	2.83E-04	0	1.08E-02	3.00E-06	0	3.93E-05	5.60E-05	**1.73E-01**
NRPRE	MJ, NCV	4.60E+00	1.26E+00	2.72E+00	5.31E-02	1.85E-01	0	4.63E-01	3.41E-04	0	2.18E-02	6.38E-03	**9.31E+00**
NRPRM	MJ, NCV	1.82E+00	0	0	0	0	0	1.82E-01	0	0	0	0	**2.00E+00**
NRPRtotal	MJ, NCV	6.42E+00	1.26E+00	2.72E+00	5.31E-02	1.85E-01	0	6.45E-01	3.41E-04	0	2.18E-02	6.38E-03	**1.13E+01**
ADP	kg	0	4.11E+00	1.53E-01	2.18E+00	3.49E-01	1.74E-01	0	4.13E-01	3.17E-04	0	2.04E-02	**7.40E+00**
SM	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
NRSF	MJ, NCV	0	0	0	0	0	0	0	0	0	0	0	**0**
RE	m3	0	0	0	0	0	0	0	0	0	0	0	**0**
FW	MJ, LHV	4.34E-01	9.37E-03	2.16E-01	3.94E-04	1.37E-03	0	4.36E-02	1.99E-05	0	1.71E-04	3.71E-04	**7.05E-01**
Output flows and waste category indicators													
HWD	kg	2.35E-03	5.20E-06	7.67E-04	2.19E-07	7.62E-07	0	2.38E-04	4.52E-07	0	7.89E-07	8.45E-06	**3.37E-03**
NHWD	kg	2.60E-04	1.18E-04	9.10E-04	4.95E-06	1.72E-05	0	2.63E-05	4.12E-08	0	6.20E-06	7.70E-07	**1.34E-03**
HLRW	kg	3.76E-07	1.86E-09	1.99E-07	4.25E-09	2.12E-09	0	3.78E-08	1.59E-11	0	2.78E-10	2.98E-10	**6.21E-07**
ILLRW	kg	1.26E-06	3.65E-09	8.93E-07	8.32E-09	4.14E-09	0	1.26E-07	3.69E-11	0	6.36E-10	6.89E-10	**2.29E-06**
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
MR	kg	4.27E-04	0	0	0	3.05E-03	0	0	0	0	0	0	**3.48E-03**
MER	kg	0	0	0	0	0	0	0	0	0	0	0	**0**
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals													
BCRP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCEP	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
BCRK	kg CO2	-4.45E-03	0	-5.60E-03	0	0	0	0	0	0	0	0	**-1.00E-02**
BCEK	kg CO2	0	0	4.45E-03	0	0	0	5.60E-03	0	0	0	0	**1.00E-02**
CBCEW	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCE	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CCR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**
CWNR	kg CO2	0	0	0	0	0	0	0	0	0	0	0	**0**

SM Transparency Report (EPD)™

EPD	LCA
3rd-party reviewed	✔
	Transparency Report (EPD)
3rd-party verified	✔

Validity: 05/28/25 – 05/28/30
SM-WRM – 05282025 – 009

This environmental product declaration (EPD) was externally verified by Lindita Bushi, PhD, Senior Research Associate at Athena, according to ISO 21930:2017; NSF PCR for Architectural Coatings; and ISO 14025:2006.

Athena Sustainable Materials Institute
600 Grings Hill Road
Sinking Spring, PA 19608
https://www.athenasmi.org/
(610) 985-0933

Athena Sustainable Materials Institute

SUMMARY

Reference PCR
NSF PCR for Architectural Coatings

Regions; system boundaries
North America; Cradle-to-grave

Functional unit: 1 m^2

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2

Public LCA:
LCA of W. R. MEADOWS VOCOMP and MEL-PRIME

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Lindita Bushi, PhD, Senior Research Associate at Athena.

W.R. MEADOWS, Inc.
300 Industrial Drive
P.O. Box 338
Hampshire, IL 60140-0338
wrmeadows.com
(800) 342-5976

Contact us

© 2025 | The SM Transparency Report [EPD]™ Program is operated by Sustainable Minds® (www.sustainableminds.com) | Privacy policy

How we make it greener

VOCOMP®

Expand all

RAW MATERIALS ACQUISITION

W. R. MEADOWS manufactures VOCOMP-20, VOCOMP-25, and VOCOMP-30 in the USA and Canada.

W. R. Meadows recognizes how regional manufacturing reshapes the way raw materials are acquired, fostering efficiency and sustainability.

- Sourcing materials locally is more sustainable and results in a smaller carbon footprint for several reasons.
- It reduces transportation emissions by avoiding long-distance and overseas shipping, cutting fuel use and greenhouse gas output.
- Supporting domestic industries strengthens local economies and promotes sustainable practices, reducing reliance on global supply chains.
- Local sourcing ensures efficient logistics, as materials are transported over shorter distances, saving energy in storage and transit.

Finally, it eliminates dependence on energy-intensive transport modes like cargo ships and planes, which consume large amounts of fossil fuels. Domestic sourcing supports the environment and creates more resilient, eco-friendly supply chains.

qo]kpm l oq]qf l k

Reducing Transportation Costs and Impact through Regional Manufacturing:

- Regional manufacturing, where goods are produced closer to their markets, significantly minimizes transportation needs.
- Shortening the distance traveled for raw materials and finished goods reduces reliance on energy-intensive methods like long-haul trucking, cargo ships, and planes.
- Fewer miles traveled directly translate to cost savings and lower greenhouse gas emissions.

MANUFACTURING

W. R. MEADOWS utilizes Continuous Improvement in its daily standard work for all manufacturing activities.

Front-line supervisors are the champions of OEE (Overall Equipment Effectiveness), which plays a crucial role in reducing energy consumption in manufacturing. It highlights any inefficiencies and directs our efforts to minimize unnecessary energy use. By closely monitoring equipment performance, OEE identifies periods of downtime, slow speeds, and quality defects, which can all lead to wasted energy. Moreover, OEE-driven improvements have led Meadows to more streamlined processes, better scheduling, and reduced machine wear, all of which contribute to lower energy costs and a more sustainable operation. This proactive approach not only decreases energy consumption but also helps manufacturers meet environmental goals and reduce their carbon footprint.

Further, OEE has helped Meadows to identify and reduce scrap by providing insights into equipment performance, highlighting areas where defects or inefficiencies occur during production. With improved equipment efficiency and fewer production delays, OEE ensures that processes run optimally, resulting in fewer errors and reduced waste. Ultimately, this leads to a higher-quality product with less material being wasted during the manufacturing process.

Manufacturing waste, clarified water, and wastewater solids are recycled back into the product when feasible.

The Benefits of Regional Manufacturing: Enhancing Efficiency and Sustainability

Regional manufacturing focuses on producing goods closer to the markets it serves, simplifying supply chains, and fostering local resource utilization.

Tapping into local labor and materials reduces dependence on extended logistics networks and reduces carbon emissions.

USE & END OF LIFE

We understand the importance of end-of-life disposal. However, these products are meant to remain permanently adhered to their substrates, making them challenging to remove. As a result, they are typically landfilled during deconstruction or demolition.

W.R. MEADOWS, Inc.
300 Industrial Drive
P.O. Box 338
Hampshire, IL 60140-0338
wrmeadows.com
(800) 342-5976

Contact us

© 2025 | The SM Transparency Report [EPD]™ Program is operated by Sustainable Minds® (www.sustainableminds.com) | Privacy policy