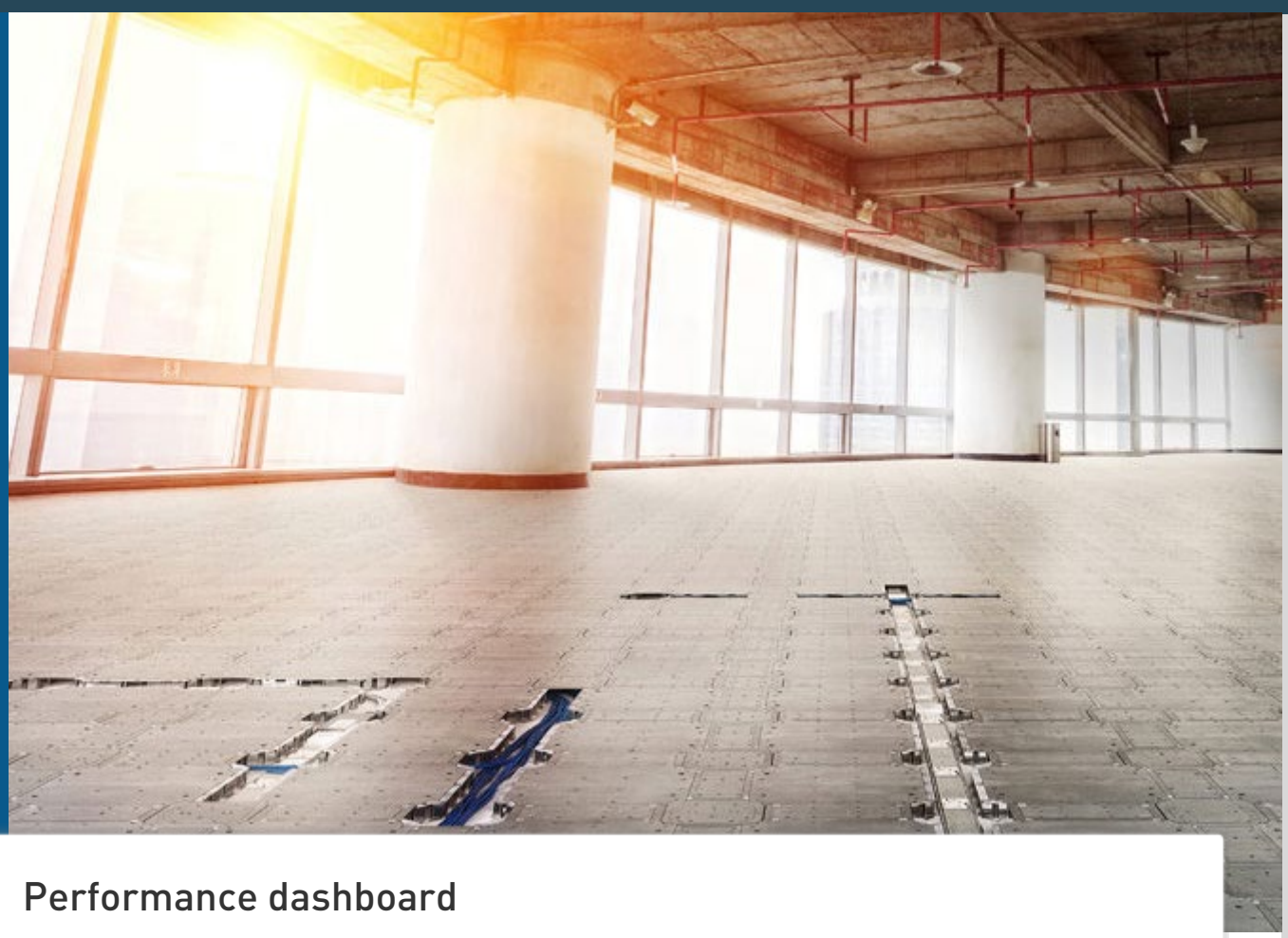
FreeAxez

Gridd40 and Gridd70

FreeAxez patented flagship product Gridd® , at only 1.6” and 2.75” FFH, provides the ability to route and hide all information cables in an accessible and adaptable, low-profile, all-steel structure right under your feet. This tool-free installation can also distribute electrical energy using Gridd Power - a modular 50-amp electrical power bus system. Using Gridd Mobile, an augmented reality app, technicians and facility teams can view cable layouts through the flooring, allowing for quick changes and modifications.



Performance dashboard

Features & functionality

Adaptable & flexible – change layouts as technology changes and user demands increase without compromising architectural integrity

Tool-free Installation – lightweight steel design allows for tool-free installation with quick and easy access to cable pathways for modifications

Aesthetic – stay true to the design vision by eliminating conflicts that arise from integrating technology

Cost effective – drive down the costs of any design changes and immediate ROI upon occupancy

Superior acoustics

Visit FreeAxez for more product information
Gridd 40, Gridd 70

Environment & materials

Improved by:
Material extracted 100% in the USA

Certifications & rating systems:

ASTM tested

ADA (2010) compliant

ICC/IBC compliant

NEC compliant

GreenSpec Listed

IAPMO Uniform ES Listed

Listed on cULus and Intertek

Seismic certified

ISO 9001: 2015

Contributes to LEED v4 / v4.1: Regional Material, Building Re-use, Material Re-use, Recycled Content and Construction Waste Management, Environmental Product Declarations, Material Ingredients

See LCA, interpretation & rating systems

CSI MasterFormat® 09 69 00
Gridd Product Selection Guidelines
For spec help, contact us or call 856.764-0400

SM Transparency Report (EPD)™

VERIFICATION	LCA
3rd party reviewed	✓
Transparency Report (EPD)	
3rd party verified	✓
Material evaluation	
Self-declared	✓

Validity: 2021/01/29 – 2026/01/28
FRE – 20211116 – 001

This environmental product declaration (EPD) was independently verified by WAP Sustainability Consulting to the ISO 21930:2017, the ULE PCR Parts A and B and ISO 14025:2006.

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WAP SUSTAINABILITY CONSULTING

SUMMARY

Reference PCR
UL Part B: Flooring EPD Requirements, September 2018

Regions; system boundaries
North America; Cradle to grave

Functional unit / reference service life:
1 m^2 of floor covering.

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Analyst 9.1
EcoInvent 3.6, 2.2

LCA conducted by: Sustainable Minds

Public LCA:
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LCA results & interpretation

Gridd40 & Gridd70

Life cycle assessment

Scope and summary

◯ Cradle to gate ◯ Cradle to gate with options ✔ **Cradle to grave**

Application
FreeAxez developed a unique cable management under-floor solution with the circular economy in mind. Made with high-quality steel, Gridd is long-lived, made with recycled content, and is reusable and recyclable when it's done being used. Installation is easy with no special tools required.

Functional unit
Reference service life: 75 years. One square meter of installed product, packaging included, for a period of 75 years.
Reference flow: 21.577 kg per square meter

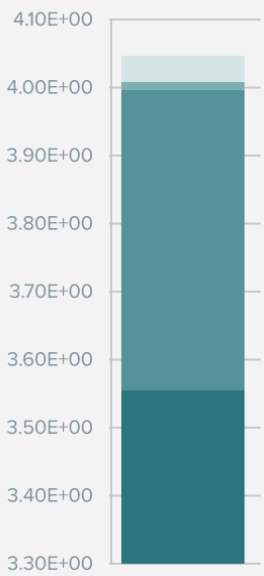
Manufacturing data
Reporting period: Jul. - Nov. 2020
Location: Attleboro, MA
Data represents a mix of primary data from FreeAxez on the production of Gridd (gate-to-gate) and background data from SimaPro databases. The quality is considered to be high and representative of the described systems. Data for material processing and product manufacturing were collected in a consistent manner and were checked for plausibility of inputs and outputs.

Installation, packaging, and disposal scenarios
At the installation site, Gridd is unpackaged and installed by hand. Packaging waste is disposed (we assumed 100% to landfill), and no maintenance or replacement is required to achieve the product's life span. After removal, Gridd is either reused or recycled. We have assumed 161 km of transport by truck at end of life. No substances required to be reported as hazardous are contained in this product.

Material composition greater than 1% by weight

FLOW	MASS PERCENTAGE
Galvanized steel	94.072%
Polyethylene	0.676%
Wood packaging	3.555%
Cardboard packaging	1.539%
Nylon packaging	0.050%
Polyethylene packaging	0.108%

Total impacts by life cycle stages [mPts/func unit]



LIFE CYCLE STAGE	MPTS/FUNC UNIT
Raw material acquisition and manufacturing	3.55E-00
Transportation	4.47E-01
Installation and maintenance	1.19E-02
Transportation	3.64E-02
Disposal	4.54E-04

What's causing the greatest impacts

All life cycle stages
The production stages (A1-A3) dominate the results for all impact categories except for ozone depletion, where the transportation stage (A4) dominates. The transportation stage is also the next highest contributor to impacts for all other impact categories. Together A1-A4 contribute to most of the impacts across the life cycle.

Raw materials acquisition and manufacturing stage
The impact of the production stages are mostly due to the raw material extraction and processing. Galvanized steel is the primary contributor since most of the product mass is made from this material.

Sensitivity analysis
A sensitivity analysis was performed on the mass differences of the individual Gridd products to check the robustness of the results of the LCA results. Both Gridd40 and Gridd70 have similar material composition, packaging inputs, and same manufacturing processes. The sensitivity analysis shows the total impact results for each impact category do not have variations greater than 10%.

Multi-product weighted average
Results represent the weighted average using production volumes for Gridd40 and Gridd70. Variations of specific products for differences of 10-20% against the average are indicated in purple; differences greater than 20% are indicated in red. A difference greater than 10% is considered significant.

The Gridd systems fortify the circular economy. Gridd's durable components are reusable, recyclable, and refundable, and enable efficient space reconfigurations throughout the life cycle of a building. Recycled steel is used in the composition of the Gridd components avoiding further extraction of non-renewable resources and filling our landfills.

Upstream material impacts – FreeAxez strives to maximize the recycled content in The Gridd systems, while maintaining premium quality, consistency, and strength.

Waste management – The Gridd systems modular components are optimized to minimize scrap materials during manufacturing. All steel scrap from manufacturing is collected and sent to a local recycling facility.

Transportation – To reduce impacts from transportation, FreeAxez routinely ships direct from the production facility to the install site using intermodal transportation. This greatly reduces carbon emissions by minimizing logistical midpoints.

Product use optimization – Gridd's high strength, corrosion resistance, and passive use model promotes longevity of the components, and in many cases allow for multiple lives due to reuse. Simple installation and reconfiguration processes require no special tools, eliminating the need for energy or water. Because there is no scrap during the processes, only the packaging requires disposal.

End of use – Gridd's superior durability allows it to be completely reusable without further refurbishment and can be recycled after the Gridd components are no longer needed. FreeAxez has a buy-back program for components to reuse for multiple lives.

See how we make it greener

LCA results

LIFE CYCLE STAGE	A1-A3 RAW MATERIAL ACQUISITION AND MANUFACTURING	A4 TRANSPORTATION	A5, B1-B7 INSTALLATION AND MAINTENANCE	C1 DECONSTRUCTION, C2 TRANSPORTATION	C3 WASTE PROCESSING C4 DISPOSAL/REUSE/ RECYCLING
Information modules: Included | Stages C1, C3,and D are not applicable	**A1 Raw Materials**	**A4 Transporation/ Delivery**	**A5 Construction/ Installation**	**C1 Deconstruction**	**C3 Waste Processing**
	A2Transportation		**B1 Use**	**C2 Transportation**	**C4 Disposal**
			B2 Maintenance		
			B3 Repair		
			B4 Replacement		
			B5 Refurbishment		
			B6 Operational energy use		
			B7 Operational water use		

SM 2013 Learn about SM Single Score results

Impacts per 75 years of service	3.55E+00 mPts	4.47E-01 mPts	1.19E-02 mPts	3.64E-02 mPts	4.54E-04 mPts
Materials or processes contributing >20% to total impacts in each life cycle stage	Steel extraction and processing.	Truck and rail transportation used to transport product to building site.	Transport and disposal of packaging materials.	Truck transport to reuse/recycling facility or landfill.	Landfill process of non-steel components.

TRACI v2.1 results per functional unit

A variation of 10 to 20% | A variation greater than 20%

LIFE CYCLE STAGE	PRODUCTION	TRANSPORTATION	INSTALLATION AND MAINTENANCE	TRANSPORTATION	DISPOSAL/REUSE/ RECYCLING
Ecological damage					
Impact category / Unit					
Acidification / **kg SO_2 eq**	1.94E-01	4.02E-02	1.88E-04	1.07E-03	7.33E-06
Eutrophication / **kg N eq**	9.61E-03	4.62E-03	6.97E-04	2.23E-04	6.15E-06
Global warming (Embodied carbon) / **kg CO_2 eq**	7.78E+01	7.26E+00	5.11E-01	6.18E-01	1.63E-02
Ozone depletion / **kg CFC-11 eq**	2.16E-08	1.55E-06	9.58E-09	1.47E-07	1.58E-10
Human health damage					
Impact category / Unit					
Carcinogenics / **CTU_h**	99%	1%	0%	0%	0%
Non-carcinogenics / **CTU_h**	90%	9%	0%	1%	0%
Respiratory effects / **kg $PM_{2.5}$ eq**	1.98E-02	3.27E-03	2.81E-05	1.88E-04	1.18E-06
Smog / **kg O_3 eq**	3.13E+00	1.12E+00	2.67E-03	1.35E-02	2.03E-04
Additional environmental information					
Impact category / Unit					
Fossil fuel depletion / **MJ, LHV**	2.95E+01	1.53E+01	8.58E-02	1.30E+00	1.45E-03

USEtox percent contribution

A variation of 10 to 20% | A variation greater than 20%

LIFE CYCLE STAGE	RAW MATERIAL ACQUISITION AND MANUFACTURING	TRANSPORTATION	INSTALLATION AND MAINTENANCE	TRANSPORTATION	DISPOSAL/REUSE/ RECYCLING
Additional environmental information					
Impact category / Unit					
Ecotoxicity / **%**	60	36	0	4	0

References

LCA Background Report
FreeAxez Gridd Raised Floor System LCA Background Report (public version), FreeAxez 2021. SimaPro Analyst 9.1.1, EcoInvent 3.6, 2.2 databases.

PCRs
ISO 21930:2017 serves as the core PCR along with EN 15804 and UL Part A.

ULE PCR Part A: Life Cycle Assessment Calculation Rules and Report Requirements v3.2
September 28, 2018. Technical Advisory Panel members reviewed and provided feedback on content written by UL Environment and USGBC. Past and present members of the Technical Advisory Panel are listed in the PCR.

ULE PCR Part B: Flooring
Version 2.0, September 2018. PCR review conducted by Jack Geibig (chair, jgeibig@ecoform.com); Thomas Gloria, PhD (t.gloria@industrial-ecology.com); and Thaddeus Owen (hiper4m@gmail.com).

ULE General Program Instructions v2.1, April 2017

ISO 14025, "Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services", ISO21930:2017

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. They are designed to present information transparently to make the limitations of comparability more understandable. Limitations of LCA results for the products represent production volumes for the Attleboro, MA facility only. TRs/EPDs of products that conform to the same PCR and include the same life cycle stages, but are made by different manufacturers, may not sufficiently align to support direct comparisons. They therefore, cannot be used as comparative assertions unless the conditions defined in ISO 14025 Section 6.7.2. 'Requirements for Comparability' are satisfied. Comparison of the environmental performance of building envelope thermal insulation using EPD information shall be based on the product's use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase as instructed under the PCR. Environmental declarations from different programs based upon differing PCRs may not be comparable. Full conformance with the PCR for flooring 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 PCR, and use equivalent scenarios with respect to construction works. Compliance with model building codes does not always ensure compliance with state or local building codes, which may be amended versions of these model codes. Always check with local building code officials to confirm compliance. However, variations and deviations are possible. Example of variations: Different LCA software and background LCI data sets may lead to different results 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	½ product
✓ Product-specific Type III EPD	1 product

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	
✓ C 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs	

Collaborative for High Performance Schools National Criteria
MW 7.1 – Environmental Product Declarations

✓ Third-party certified type III EPD	2 points

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)™

VERIFICATION	LCA
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Transparency Report (EPD)	
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Material evaluation	
Self-declared	✓

Validity: 2021/01/29 – 2026/01/28
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How we make it greener

Gridd40 & Gridd70

See LCA results by life cycle stage

RAW MATERIAL EXTRACTION AND PROCESSING

Gridd is primarily manufactured from galvanized steel coil sources from premium suppliers in the USA. To provide reliable and consistent performance over Gridd's lifespan, FreeAxez requires the steel to be of superior quality and durability.

To avoid unnecessary extraction of raw materials, FreeAxez' strives to maximize the premium recycled steel used in Gridd's composition.

MANUFACTURING

Gridd components are modular, and therefore require a simple manufacturing process with no water or fuel, and a minute amount of electricity.

While our stamping process inherently produces scrap steel, the components are designed to produce as little scrap as possible. The amount that cannot be eliminated is sent to a recycling facility for reuse.

TRANSPORTATION

To reduce impacts from transportation, FreeAxez utilizes intermodal, or rail transport, where feasible to distribute Gridd across North America.

When transporting Full Truck Loads (FTL), Gridd is directly fulfilled from the manufacturer to the facility. By transporting FTL directly to the product site, the intermediary step through a distributer is eliminated. This greatly reduces carbon emissions and transit logistical requirements.

When Gridd is being shipped at a Less than Truck Load (LTL), the shipment is either directly delivered to the product site, or from an order fulfillment center. By shipping FTL and LTL directly, FreeAxez minimizes the midpoints in distribution, and reduces the carbon footprint through all stages of transportation and delivery.

INSTALLATION

Gridd was designed to be installed by hand, yielding a simple installation and reconfiguration process that requires no special tools. The tool-free approach eliminates the need for energy, water, or auxiliary materials to install the product.

Gridd's modular components can be adjusted to fit all room sizes, leaving minimal scrap material produced from the installation. Only the packaging requires disposal, and in many instances the carboard packaging can be utilized as floor protection during construction.

Gridd is designed to efficiently route power and data throughout the entire ecosystem of the building. With the rapid proliferation of technology, spaces must have the flexibility to be reconfigured or repurposed over time. For this reason, Gridd can be efficiently removed and reconfigured to minimize turnover times and construction effort. Many customers have relocated their facility removing, storing and relocating Gridd to a new facility.

USE

Gridd's high strength steel, corrosion resistant treatment, and passive use model promote longevity of the components. The Gridd system can be removed and reconfigured an infinite number of times with virtually no degradation to the components. The base units in the Gridd system stand on 36 legs, ensuring stability and strength. The steel is galvanized, and therefore is protected from the elements and remains in pristine condition. Gridd is intended to last for the lifespan of the building, and beyond in cases where it's reused.

END OF USE

The Gridd system was designed to continue providing value even after the system is no longer needed in a space. Gridd's superior durability allows it to be completely reusable without further refurbishment.

FreeAxez also has a buy-back program of Gridd components, so that the system can be installed in new locations for another life. In other cases, Gridd is recycled so it can continue to participate in the circular economy.

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Transparency Report (EPD)	
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Additional EPD content required by: ULE PCR Parts A and B for Flooring EPD Requirements

Gridd40 and Gridd70

Data

Background This product specific declaration was created by collecting product data for 1 m^2 of FreeAxez cable management system.

Allocation The allocation methods used were examined according to the updated allocation rules in ISO 21930:2017 and we were determined to be in conformance; no updates to allocation methods were made.

Cut-off criteria For the inclusion of mass and energy flows are 1% of renewable primary resource (energy), 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 exception to these criteria is substances with hazardous and toxic properties, which must be listed even when the given process unit is under the cut-off criterion of 1% of the total mass. No known flows are deliberately excluded from this declaration. Biogenic carbon is included in reported results.

Scenarios and additional technical information

PARAMETER	VALUE	UNIT

Transport to the building site [A4]

Vehicle type	Truck	Train	
Fuel type	Diesel	Diesel	
Liters of fuel	0.0950	0.0277	l/100 km
Distance from manufacturer to installation site	1484	2981	km
Capacity utilization (mass based)	100		%
Gross density of products transported	847		kg/m^3
Capacity utilization volume factor	1		

PARAMETER	VALUE	UNIT

Installation into the building [A5]

Ancillary materials	0	kg
Net freshwater consumption	0	m^3
Other resources	0	kg
Electricity consumption	0	kWh
Other energy carriers	0	MJ
Product loss per functional unit	0	kg
Waste materials	0	kg
Output materials from on-site waste processing	0	kg
Mass of packaging waste by type Wood Cardboard Plastic	 0.81 0.35 0.04	kg
Biogenic carbon contained in packaging	2.13	kg CO_2
Direct emissions to ambient air, soil and water	0	kg
VOC emissions	0	µg/m^3

Use in the building [B1-B7]

Reference Service Life (RSL)	75 years
Declared product properties (at the gate) and finishes	100-250 lbs/ft^2
Declared application parameters	Installed under floor
An assumed quality of work when installed in accordance with manufacturer's instructions	Average
Outdoor environment	Not applicable
Indoor environment	Wide range of indoor space types with typical HVAC controls
Use conditions	Low-high traffic areas with daily use and loads up to 250 lbs/ft^2
Maintenance	None

End of life [C1-C4]

Assumptions for scenario development	The product is dismantled and removed from the building by hand. It is transported to a local facility where it requires no further processing before final disposition.		
Collection process	Collected separately	21.42	kg
	Collected with mixed construction waste	0.15	kg
Recovery	Reuse	0	kg
	Recycling	21.42	kg
	Landfill	0.15	kg
	Incineration	0	kg
	Incineration with energy recovery	0	kg
	Energy Conversion	0	kg
Disposal	Product or material for final disposition	21.58	kg
Removals of biogenic carbon (excluding packaging)		0	kg

LCIA results, resource use, output and waste flows, and carbon emissions and removals per functional unit

A variation of 10 to 20% | A variation greater than 20%

Parameter	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	Total
LCIA results																
Acidification	kg SO2eq	1.94E-01	4.02E-02	1.88E-04	0	0	0	0	0	0	0	0	1.07E-03	0	7.33E-06	**2.36E-01**
Eutrophication	Kg N eq	9.61E-03	4.62E-03	6.97E-04	0	0	0	0	0	0	0	0	2.23E-04	0	6.15E-06	**1.52E-02**
Global warming	kg CO_2 eq	7.78E+01	7.26E+00	5.11E-01	0	0	0	0	0	0	0	0	6.18E-01	0	1.63E-02	**8.63E+01**
Ozone depletion	kg CFC-11	2.16E-08	1.55E-06	9.58E-09	0	0	0	0	0	0	0	0	1.47E-07	0	1.58E-10	**1.73E-06**
Smog	kg O_3 eq	3.13E+00	1.12E+00	2.67E-03	0	0	0	0	0	0	0	0	1.35E-02	0	2.03E-04	**4.26E+00**
Fossil fuel depletion	MJ, LHV	2.95E+01	1.53E+01	8.58E-02	0	0	0	0	0	0	0	0	1.30E+00	0	1.45E-03	**4.62E+01**
Carcinogenics	CTUh	99%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**7.30E-07**
Non-carcinogenics	CTUh	90%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	**7.27E-06**
Ecotoxicity	CTUe	60%	36%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	**3.75E+01**
Resource use indicators																
Renewable primary energy used as energy carrier (fuel)	MJ, LHV	4.15E+01	1.11E-01	7.84E-03	0	0	0	0	0	0	0	0	1.06E-02	0	3.00E-04	**4.17E+01**
Renewable primary resources with energy content used as material	MJ, LHV	1.98E+01	0	0	0	0	0	0	0	0	0	0	0	0	0	**1.98E+01**
Total use of renewable primary resources with energy content	MJ, LHV	6.13E+01	1.11E-01	7.84E-03	0	0	0	0	0	0	0	0	1.06E-02	0	3.00E-04	**6.15E+01**
Non-renewable primary resources used as an energy carrier (fuel)	MJ, LHV	8.38E+02	1.02E+02	6.13E-01	0	0	0	0	0	0	0	0	8.69E+00	0	1.13E-02	**9.49E+02**
Non-renewable primary resources with energy content used as material	MJ, LHV	9.42E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	**9.42E+00**
Total use of non-renewable primary resources with energy content	MJ, LHV	8.48E+02	1.02E+02	6.13E-01	0	0	0	0	0	0	0	0	8.69E+00	0	1.13E-02	**9.59E+02**
Secondary materials	kg	2.39E+01	0	0	0	0	0	0	0	0	0	0	0	0	0	**2.39E+01**
Renewable secondary fuels	MJ, LHV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Non-renewable secondary fuels	MJ, LHV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Recovered energy	MJ, LHV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Use of net fresh water resources	m3	1.16E+01	5.23E-01	2.84E-02	0	0	0	0	0	0	0	0	6.77E-02	0	1.10E-03	**1.22E+01**
Output flows and waste category indicators																
Hazardous waste disposed	kg	7.89E-05	0	0	0	0	0	0	0	0	0	0	0	0	0	**7.89E-05**
Non-hazardous waste disposed	kg	5.61E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	**5.61E+00**
High-level radioactive waste, conditioned, to final repository	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Intermediate- and low-level radioactive waste, conditioned, to final repository	kg	9.11E-06	0	0	0	0	0	0	0	0	0	0	0	0	0	**9.11E-06**
Components for re-use	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Materials for recycling	kg	6.83E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	**6.83E+00**
Materials for energy recovery	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Exported energy	MJ, LHV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions and removals																
Biogenic carbon removal from product	kg CO_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Biogenic carbon emission from product	kg CO_2	1.34E+00	3.64E-03	1.40E-01	0	0	0	0	0	0	0	0	4.64E-04	0	0	**1.48E+00**
Biogenic carbon removal from packaging	kg CO_2	2.13E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	**2.13E+00**
Biogenic carbon emission from packaging	kg CO_2	0	0	2.13E+00	0	0	0	0	0	0	0	0	0	0	0	**2.13E+00**
Biogenic carbon emission from combustion of waste from renewable sources used in production processes	kg CO_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Calcination carbon emissions	kg CO_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbonation carbon removals	kg CO_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Carbon emissions from combustion of waste from non-renewable sources used in production processes	kg CO_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**