Environmental Product Declaration
Levelrock® Brand SAM-CSD™ Sound Attenuation Mat

Premium sound mat products

Features and Benefits

- STC and IIC values help meet or exceed code requirements for sound attenuation
- For use over corrugated steel deck
- Specially engineered fabric eliminates the need to pre-fill the flutes
- Robinson tested for system durability
- Installed by USG Levelrock authorized applicators

Functional Unit – 1 Square Meter Cradle-to-Installation with End-of-Life (A1-A5, C1-C4)	Levelrock® Brand SAM-CSD Sound Attenuation Mat
Global Warming Potential (kg CO_2 eq.)	**4.28E+00**
Ozone Depletion Potential (kg CFC 11 eq.)	**2.09E-10**
Acidification Potential (kg SO_2 eq.)	**9.43E-03**
Eutrophication Potential (kg N eq.)	**8.53E-04**
Photochemical Ozone Creation Potential (kg O_3 eq.)	**1.57E-01**
Abiotic Resource Depletion Potential Fossil Fuels (MJ, LHV)	**1.16E+01**

For over a century, sustainable practices have naturally been an inherent part of our business at USG. Today, they help shape the innovative products that become the homes where we live, the buildings where we work and the arenas where we play. From the product formulations we choose, to the processes we employ, USG is committed to designing, manufacturing, and distributing products that minimize overall environmental impacts and contribute toward a healthier living space. We believe that transparency of product information is essential for our stakeholders and Environmental Product Declarations (EPDs) are the next step toward an even more transparent USG. For additional information, visit usg.com and usg.ecomedes.com.

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This declaration is an Environmental Product Declaration (EPD) in accordance with ISO 14025 and ISO 21930; 2017. Environmental declarations from different programs (ISO 14025) may not be comparable. Comparison of the environmental performance of products 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 Product Category Rules (PCR). Full conformance with the PCR for Mechanical Thermal Insulation allows EPD comparability only when all stages of a life cycle have been considered. However, variations and deviations are possible". Example of variations: Different Life Cycle Assessment (LCA) software and background Life cycle Inventory (LCI) datasets may lead to differences results for upstream or downstream of the life cycle stages declared.

DECLARATION NUMBER	EPD 388
PROGRAM OPERATOR	ASTM International – 100 Barr Harbor Drive, West Conshohocken, PA USA www.astm.org
DECLARATION HOLDER	United States Gypsum Company - 550 W. Adams St., Chicago, IL USA
DECLARED PRODUCT	Levelrock® Brand SAM-CSD™ Sound Attenuation Mat
Declared Unit	One Square Meter
REFERENCE PCR	Product Category Rules for Part B: Mechanical, Specialty, Thermal, and Acoustic Insulation Product EPD Requirements, UL 10010–03- First Edition, Dated September 3, 2019
DATE OF ISSUE	11/1/22 (valid for 5 years)
EPD Type	Product Specific
EPD Scope	Cradle-to-Installation with End-of-Life
Year of Reported Mfg. Primary Data	2021
LCA Software & Version Number	GaBi software (version 10.6.2.9)
This declaration was independently verified in accordance with ISO 14025: 2006. The UL Environment "Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report," v3.2 (December 2018), based on ISO 21930:2017, serves as the core PCR, with additional considerations from CEN Norm EN 15804 (2012) and the USGBC/UL Environment Part A Enhancement (2017) □ INTERNAL ☒ EXTERNAL	Tim Brooke, ASTM International
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Thomas P. Gloria, Industrial Ecology Consultants

1. General Description

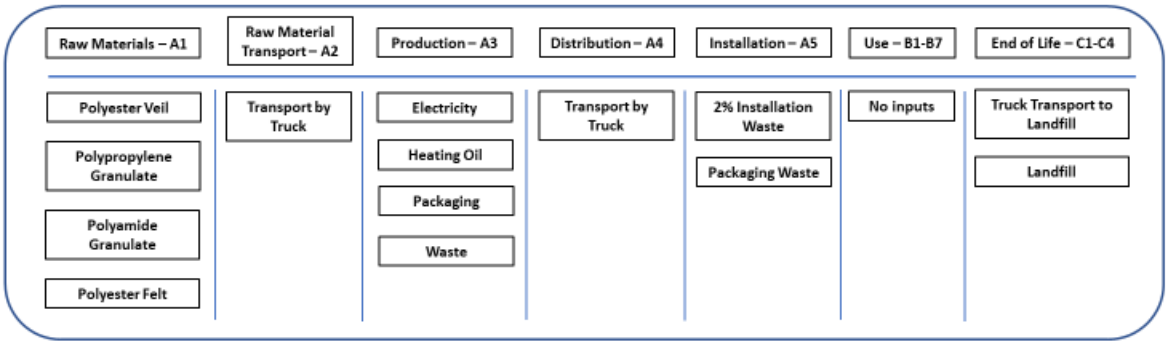
1.1 Company Description

Levelrock® Brand SAM-CSD Sound Attenuation Mat is sold by USG Corporation, a leading North American manufacturer of building products and a subsidiary of Gebr. Knauf KG. Products are manufacturered by a 3rd party manufacturer located in Maine, U.S.

1.1 Product Description and Product Identification

Levelrock® Brand SAM-CSD Sound Attenuation Mat is designed for use over corrugated steel deck, USG Levelrock® Brand SAM-CSD™ Sound Attenuation Mat combines an engineered polymer resin with a durable tear-resistant backing that eliminates the need to pre-fill the flutes. Just 3/8 in. (10 mm) thick, Levelrock® SAM-CSD sound attenuation mat can be easily installed directly over the corrugated steel deck while providing an economical method of improving the IIC and STC ratings.

1.2 Manufacturing Flow Diagram



1.3 Material Composition

Material	Levelrock® Brand SAM-CSD Sound Attenuation Mat
Polyester Veil	10%
Nylon entangled core	90%
Total	100%

1.4 Designated Application

The products covered by this EPD are made from a durable polymer resin and are designed to installed on corrugated steel deck with a specified minimum thickness USG Levelrock® floor underlayment topping.

1.5 Technical Requirements

USG Product	Subfloor	Sound Mat Thickness	Minimum USG Underlayment Thickness
Levelrock® Brand SAM-CSD Sound Attenuation Mat	Corrugated steel deck	3/8 in. (10 mm)	1-3/8 in. (35 mm)

1.6 Properties of Declared Product as delivered

USG Levelrock® Brand SAM-CSD Sound Attenuation Mat products arrive at the jobsite in rolls as noted below.

Property	Levelrock SAM-CSD
Roll Width (in.)	39.5
Roll length (ft)	100
Mat thickness (in.)	0.375
Roll diameter (in.)	26
Weight per roll (lbs.)	41

2. General Description

2.1 Product Manufacturing

USG Levelrock® Brand SAM-CSD Sound Attenuation Mat consist of a polyester facer veil with a resilient entangled core made from nylon. The polyester facer veil is used as a carrying fabric during manufacture during which the entangle core is deposited using a proprietary hot-melt process.

2.2 Packaging

USG Levelrock® Brand SAM-CSD Sound Attenuation Mat arrives at the jobsite in rolls inside plastic bags. USG encourages the proper recycling of these packaging materials. Both the production and disposal of these packaging materials was modeled in this study.

2.3 Transportation/Distribution

The transport distances (product transport from the point of manufacture to building site) of 1,000 miles (1609 km) by truck were used in this analysis. Final transportation from the building site to waste processing was defaulted to 25 miles (40 km) by truck.

Name	Value	Unit
Fuel Type	Diesel	
Liters of fuel	0.808	l/100km
Vehicle Type	Diesel truck	
Transport Distance	1000	km
Transport Distance	621	miles
Capacity Utilization	0.670	-
Gross density of product transported	207.8	kg/m^3
Gross density of product transported	13.0	pcf

2.4 Product Installation

USG Levelrock® Brand SAM-CSD Sound Attenuation Mat should be installed according to published installation instructions. Approved installation procedures are provided in the USG installation guide ic5465 entitled USG Finished Flooring Preparation & Installation Guidelines. Installation of this product is accomplished by manual labor using mostly hand tools. No material or energy inputs are required on the jobsite.

Name	Value	Unit
Auxiliary materials	0	kg
Net freshwater Consumption	0	m3
Other resources	0	kg
Electricity consumption	0	KWh
Other energy carriers	0	MJ
Percent loss per declared unit	2% of delivered weight	%
Waste material generated during installation	1.32E-02	kg
Mass of packaging waste (cardboad)	7.59E-03	kg
Mass of packaging waste (plastic film)	1.39E-03	kg
Biogenic carbon contained in packaging	1.02E-01	kg CO2e
Dust emission to ambient air, soil and water	NA	$\mu g/m^3$
VOC in the air	NA	$\mu g/m^3$

2.5 Use

Levelrock® Brand SAM-CSD Sound Attenuation Mat is installed under a layer of Levelrock self-leveling underlayment. There are no raw material or energy inputs during the B1-B7 use stages.

Name	Value	Unit
RSL	75	years
Declared product properties (at the gate) and finishes, etc.	See manufacturer's installation instructions for details.	
Design application parameters (if instructed by the manufacturer), including references to the appropriate practices and application codes)	NA	
An assumed quality of work, when installed in accordance with the manufacturer's instructions	See manufacturer's installation instructions for details.	
Outdoor environment	NA	
Indoor environment, (if relevant for indoor applications)	NA	
Use conditions	NA	
Maintenance	NA	

2.6 End-of-Life Disposal

USG is helping to meet the needs of a growing world and preserve natural resources by taking back approved ceiling panels from any manufacturer and recycling them into new building products. While USG encourages recycling of its products at end of life through its take back program, all waste generated during installation and at end-of-life is assumed to be disposed of in an appropriate landfill.

Name		Value	Unit
Assumptions for scenario development (description of deconstruction, collection, recovery, disposal method and transportation)	At End-of-Life it is assumed that this product would be sent to an appripriate landfill.		
Collection process (specified by type)			
Recovery (specified by type)	Reuse	0	kg
	Recycling	0	kg
	Landfill	see product weights	kg
	Incineration	0	kg
	Incineration with energy recovery	0	kg
	Energy conversion	NA	
Disposal		0	kg
Removals of biogenic carbon (excluding packaging)		0	kg CO2e

2.7 Re-Use Phase

Since this product is covered by a layer of self-leveling floor underlayment, this product would generally not be reused at the end of a building's life.

3. Methodological Framework

3.1 Functional Unit

Product	Levelrock® Brand SAM-CSD
Functional Unit	1 m^2
Functional Unit	10.76 ft^2
Declared Thickness (cm)	1.00 cm
Declared Thickness (inches)	3/8 in.
Surface Weight (kg/m^2)	0.660
Surface Weight ($lbs./ft^2$)	0.135
Gross Density (kg/m^3)	208
Gross Density ($lbs./ft^3$)	13.0

3.2 Reference Service Life

A default RSL of 75 years shall be assumed for the product. An assumed Estimated Service Life (ESL) of 75 years shall be used for building life.

3.3 System Boundary

This EPD represents a cradle-to-installation with end-of-life LCA study for USG Levelrock® Brand SAM-CSD Sound Attenuation Mat. It covers all the production steps from raw material extraction (i.e., the cradle) to end of life disposal (grave).

Product stage				Construction process stage				Use stage				End of life stage			
Raw Material Supply	Transport	Manufacturing	Transport	Construction-Installation Process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational water Use	De-construction	Transport	Waste processing	Disposal
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

3.4 Estimates and Assumptions

The results are limited by the use of proxy processes rather than processes baed on supplier generated primary data.

This would include such processes as the manufacture of he polyeter veil. In addition, the data is limited in that the primary data was collected during 2021 and changes in operations may increase/decrease impacts in the future. Other data limitations include the use of secondary data sets instead of primary data for upstream and downstream processes, local impacts vs. global impacts, possible impacts vs. actual impacts, inherent uncertainty in the data sets, accuracy, and precision of impact assessment methodology, etc. Both human activity and capital equipment were excluded from the system boundary.

3.5 Cut-off Criteria

All inputs and outputs to a (unit) process were included in the calculation for which data is available. In case of insufficient input data or data gaps for a unit process, the cut-off criteria was 1% of renewable and non-renewable primary energy usage and 1% of the total mass of that unit process. The total neglected input flows did not exceed 5% of energy usage and mass.

3.6 Data Requirements and Data Sources

The LCA model was created using the GaBi software (version 10.6.2.9) from Sphera. Specific comments related to data quality requirements cited in ISO 14025 Section 4.2.3.6.2 include the following.

Temporal: In the case of production, the LCI data was collected for the 2021 production year.

Geographical: Where possible, all processes were chosen as being representative of US manufacturing processes.

Technical: The data selected for this study is specific to the technology used in the preparation of the various raw materials.

Precision: The raw material usage amounts were derived from plant quality data and on plant product formulas.

Completeness: Virtually all the significant raw material flows (> 99.9%) have been modeled.

Representative: Where possible all the data sets were selected to be representative of US-based production, are less than 10 years in age and are representative of the technology being employed.

Consistency: All the manufacturing processes were modeled in a consistent manner throughout this study in accordance with the goal and scope definitions.

Reproducibility: The information contained in this study, including raw material, energy and transportation distance inputs, have been fully documented in the LCA report.

Sources of Data: The sources for the processes used in this study have been fully provided in the LCA report and are representative of the material and energy sources used in actual production.

Uncertainty: The relative uncertainty associated with this study has been minimized. No significant assumptions have been made.

3.7 Period Under Review/Allocation

No allocation was required in this study. The LCI data was collected for the 2021 production year.

3.8 Comparability

A comparison or evaluation of EPD data is only possible if all data sets to be compared are 1) created according to EN 15804 and 2) are considered in a whole building context or utilize identical defined use stage scenarios. Comparisons are only allowable when EPDs report cradle-to-grave information using a functional unit. Refer to section 5.3 of EN 15804 for further information. Comparison of the environmental performance of this product 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 this PCR. Full conformance with the PCR allows EPD comparability only when all stages of a product life cycle have been considered. However, variations and deviations are possible.

4. Environmental Indicators Derived from LCA

4.1 Life Cycle Impact Assessment Results

Environmental LCA Results for 1 Square Meter of Levelrock® Brand SAM-CSD (A1-A5, C1-C4)

		Stage								
Impact Assessment Method: TRACI 2.1		**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Environmental Impact Category	Units	Impact	Impact	Impact	Impact	Impact	Impact	Impact	Impact	Impact
Global Warming	kg CO2 eq.	4.14E+00	2.62E-02	8.53E-02	0.00E+00	0.00E+00	2.01E-03	0.00E+00	2.80E-02	4.28E+00
Ozone Depletion Potential (ODP)	kg CFC 11 eq.	2.05E-10	2.67E-17	4.18E-12	0.00E+00	0.00E+00	3.81E-18	0.00E+00	8.97E-16	2.09E-10
Acidification Potential	kg SO2 eq.	9.07E-03	3.55E-05	1.87E-04	0.00E+00	0.00E+00	6.09E-06	0.00E+00	1.22E-04	9.43E-03
Eutrophication Potential (EP)	kg N eq.	8.24E-04	3.91E-06	1.70E-05	0.00E+00	0.00E+00	6.24E-07	0.00E+00	6.79E-06	8.53E-04
Photochemical Ozone Creation Potential (POCP)	kg O3 eq.	1.51E-01	8.03E-04	3.12E-03	0.00E+00	0.00E+00	1.39E-04	0.00E+00	2.14E-03	1.57E-01
Abiotic Depletion Potential (ADP) - fossil fuels	MJ surplus energy	1.13E+01	2.63E-02	2.32E-01	0.00E+00	0.00E+00	3.76E-03	0.00E+00	5.40E-02	1.16E+01

Environmental LCA Results for 1 Square Foot of Levelrock® Brand SAM-CSD (A1-A5, C1-C4)

		Stage								
Impact Assessment Method: TRACI 2.1		**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Environmental Impact Category	Units	Impact	Impact	Impact	Impact	Impact	Impact	Impact	Impact	Impact
Global Warming	kg CO2 eq.	3.85E-01	2.44E-03	7.93E-03	0.00E+00	0.00E+00	1.87E-04	0.00E+00	2.60E-03	3.98E-01
Ozone Depletion Potential (ODP)	kg CFC 11 eq.	1.90E-11	2.48E-18	3.89E-13	0.00E+00	0.00E+00	3.54E-19	0.00E+00	8.34E-17	1.94E-11
Acidification Potential	kg SO2 eq.	8.43E-04	3.30E-06	1.74E-05	0.00E+00	0.00E+00	5.66E-07	0.00E+00	1.13E-05	8.76E-04
Eutrophication Potential (EP)	kg N eq.	7.66E-05	3.63E-07	1.58E-06	0.00E+00	0.00E+00	5.80E-08	0.00E+00	6.31E-07	7.92E-05
Photochemical Ozone Creation Potential (POCP)	kg O3 eq.	1.40E-02	7.47E-05	2.90E-04	0.00E+00	0.00E+00	1.29E-05	0.00E+00	1.99E-04	1.46E-02
Abiotic Depletion Potential (ADP) - fossil fuels	MJ surplus energy	1.05E+00	2.44E-03	2.16E-02	0.00E+00	0.00E+00	3.49E-04	0.00E+00	5.02E-03	1.08E+00

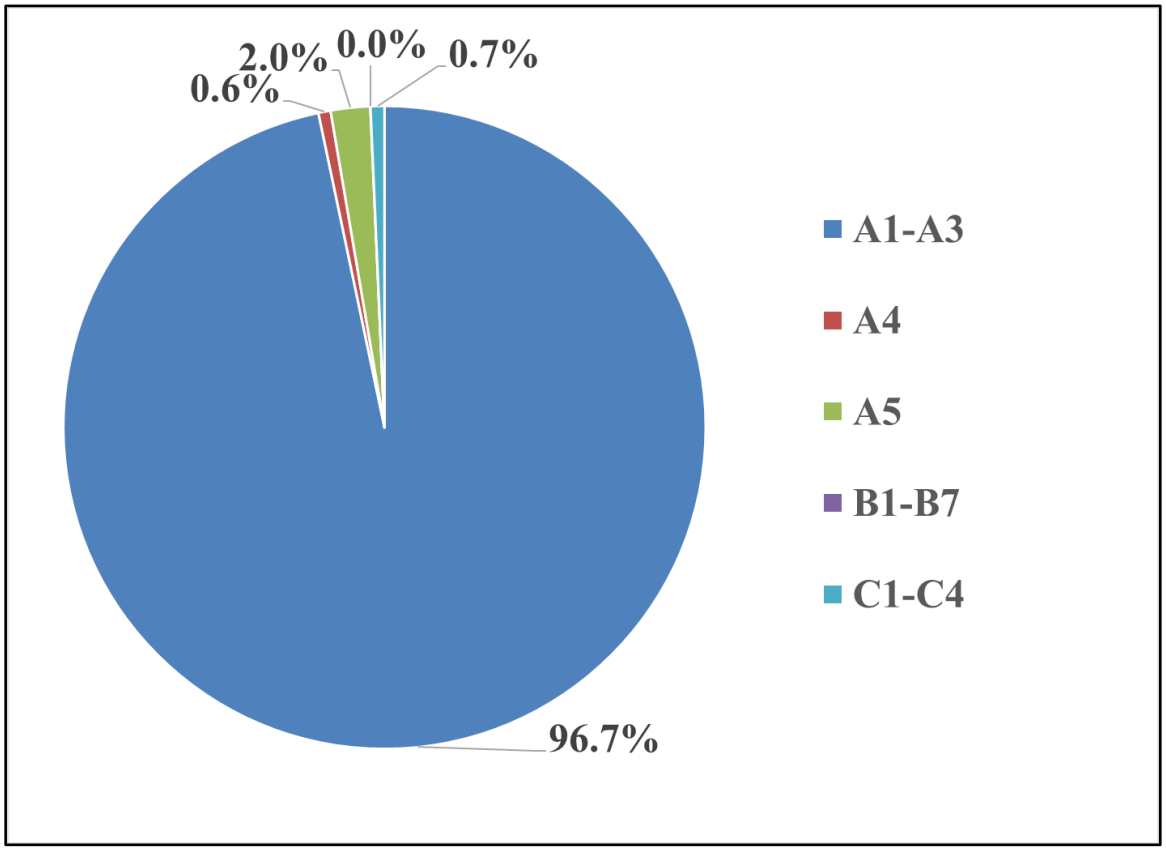
Resource and Waste Flows for 1 Square Meter of Levelrock® Brand SAM-CSD (A1-A5, C1-C4)										
		Stage								
Use of Primary Resources	**Units**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Renewable primary resources used as an energy carrier (RPRE)	MJ, NCV	2.41E+00	7.72E-03	4.97E-02	0.00E+00	0.00E+00	1.10E-03	0.00E+00	4.00E-02	2.51E+00
Renewable primary resources with energy content used as material (RPRM)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-renewable primary resources used as an energy carrier (NRPRE)	MJ, NCV	8.51E+01	1.98E-01	1.74E+00	0.00E+00	0.00E+00	2.84E-02	0.00E+00	4.27E-01	8.75E+01
Non-renewable primary resources with energy content used as material (NRPRM)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E+00	3.00E+00
Secondary material, secondary fuel and recovered energy		**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Secondary Material (SM)	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renewable Secondary Fuel (RSF)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-renewable Secondary Fuel (NRSF)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renewable Energy (RE)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Consumption of Fresh Water	m3	1.20E-02	2.77E-05	2.45E-04	0.00E+00	0.00E+00	3.97E-06	0.00E+00	6.13E-05	1.23E-02
Additional inventory parameters for transparency		**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Removals and emissions associated with biogenic carbon content of the bio-based product	kg CO2-eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Emission from calcination and uptake from carbonation	kg CO2-eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Removals and emissions associated with biogenic carbon content of the bio-based packaging	kg CO2-eq.	-1.08E-03	0.00E+00	1.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Emissions from land use change	kg CO2-eq.	2.09E-04	9.88E-06	4.98E-06	0.00E+00	0.00E+00	1.41E-06	0.00E+00	1.02E-05	2.36E-04
Emissions from combustion of waste from renewable sources used in production processes	kg CO2-eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Emissions from combustion of waste from non-renewable sources used in production processes	kg CO2-eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Indicators describing waste		**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Hazardous waste disposed	kg	6.25E-07	8.25E-13	1.28E-08	0.00E+00	0.00E+00	1.18E-13	0.00E+00	1.60E-11	6.38E-07
Non-hazardous waste disposed	kg	2.73E-02	1.71E-05	1.41E-02	0.00E+00	0.00E+00	2.44E-06	0.00E+00	6.67E-01	7.09E-01
High-level radioactive waste	kg	9.82E-04	5.50E-07	2.01E-05	0.00E+00	0.00E+00	7.86E-08	0.00E+00	3.75E-06	1.01E-03
Intermediate and low-level waste	kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Assignments of output flows at the end-of-life		**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Components for re-use (CRU)	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling (MR)	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery (MER)	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Recovered energy exported (EE)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Resource and Waste Flows for 1 Square Foot of Levelrock® Brand SAM-CSD (A1-A5, C1-C4)										
		Stage								
Use of Primary Resources	**Units**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Renewable primary resources used as an energy carrier (RPRE)	MJ, NCV	2.24E-01	7.17E-04	4.62E-03	0.00E+00	0.00E+00	1.03E-04	0.00E+00	3.72E-03	2.33E-01
Renewable primary resources with energy content used as material (RPRM)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-renewable primary resources used as an energy carrier (NRPRE)	MJ, NCV	7.91E+00	1.84E-02	1.62E-01	0.00E+00	0.00E+00	2.64E-03	0.00E+00	3.97E-02	8.13E+00
Non-renewable primary resources with energy content used as material (NRPRM)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Secondary material, secondary fuel and recovered energy		**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Secondary Material (SM)	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renewable Secondary Fuel (RSF)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-renewable Secondary Fuel (NRSF)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renewable Energy (RE)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Consumption of Fresh Water	m3	1.11E-03	2.58E-06	2.28E-05	0.00E+00	0.00E+00	3.69E-07	0.00E+00	5.69E-06	1.14E-03
Additional inventory parameters for transparency		**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Removals and emissions associated with biogenic carbon content of the bio-based product	kg CO2-eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Emission from calcination and uptake from carbonation	kg CO2-eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Removals and emissions associated with biogenic carbon content of the bio-based packaging	kg CO2-eq.	-2.53E-06	0.00E+00	2.53E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Emissions from land use change	kg CO2-eq.	1.94E-05	9.19E-07	4.63E-07	0.00E+00	0.00E+00	1.31E-07	0.00E+00	9.44E-07	2.19E-05
Emissions from combustion of waste from renewable sources used in production processes	kg CO2-eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Emissions from combustion of waste from non-renewable sources used in production processes	kg CO2-eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Indicators describing waste		**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Hazardous waste disposed	kg	5.81E-08	7.67E-14	1.19E-09	0.00E+00	0.00E+00	1.10E-14	0.00E+00	1.49E-12	5.93E-08
Non-hazardous waste disposed	kg	2.54E-03	1.58E-06	1.31E-03	0.00E+00	0.00E+00	2.27E-07	0.00E+00	6.20E-02	6.59E-02
High-level radioactive waste	kg	9.13E-05	5.11E-08	1.87E-06	0.00E+00	0.00E+00	7.31E-09	0.00E+00	3.48E-07	9.35E-05
Intermediate and low-level waste	kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Assignments of output flows at the end-of-life		**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**Total A1-A5, C1-C4**
Components for re-use (CRU)	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling (MR)	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery (MER)	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Recovered energy exported (EE)	MJ, NCV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

5. LCA Interpretation

The LCA results for the production of USG Levelrock® Brand SAM-CSD Sound Attenuation Mat was dominated by raw materials; primarily the polymers used to produce the product.

Process Dominance Analysis for GWP for the Production of 1 Square Meter of Levelrock® Brand SAM-CSD Sound Attenuation Mat



6. References

LCA Report

A Cradle-to-Gate (A1-A3) and Cradle-to-Installation with End-of-Life (A1-A5, C1-C4) Life Cycle Assessment of USG Levelrock® Brand Sound Attenuation Mat Products, 9/12/22. USG (Confidential)

Product PCR

PCR for Building-Related Products and Services - Part A: Calculation Rules for the LCA and Requirements Project Report, (IBU/UL Environment document number 10010, revision V3.2, December 2018)

UL Environment: PCR Guidance for Building-Related Products and Services; Part B: Mechanical, Specialty, Thermal, and Acoustic Insulation Product EPD Requirements, UL 10010–03; First Edition, Dated September 3, 2019

Sustainability Reporting Standards

EN 15804:2012-04 - Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction product

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

ISO 14040:2006/Amended 1:2020 - Environmental management – Life cycle assessment – Principles and framework

ISO 14044:2006/amended 2: 2020 - Environmental management – Life cycle assessment – Requirements and guidelines

ISO 14046:2013 - Environmental management- Water footprint- Principles, requirements and guidelines

ISO 15392:2008 - Sustainability in building construction- General principles

ISO 15686-1:2011 - Buildings and constructed assets- Service life planning- Part 1: General principles

ISO 15686-2:2008 - Buildings and constructed assets- Service life planning Part 2: Service life prediction procedures

ISO 15686-7:2008 - Buildings and constructed assets- Service life planning Part 7: Performance evaluation for feedback of service life data from practice

ISO 15686-8:2008 - Buildings and constructed assets- Service life planning Part 8: Reference service life and service life estimation

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