

# Environmental Product Declaration

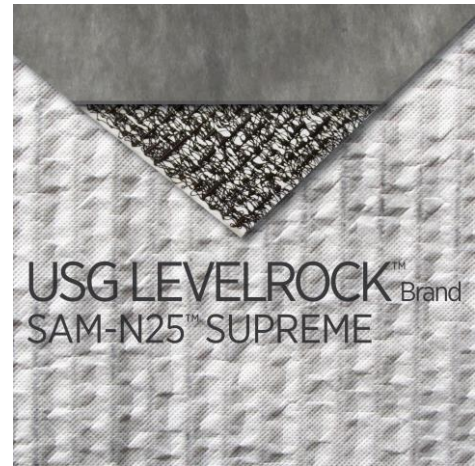
## Levelrock® Brand SAM-N25™ Supreme Sound Attenuation Mat



### Premium sound mat products

#### Features and Benefits

- Uniquely engineered for superior sound absorption
- 5/16 in. (8 mm) profile
- Three layered mat with lightweight glass fibers that provide superior sound absorption
- STC and IIC values exceed code requirements for sound attenuation
- Ideal for demanding sound environments, including cross-laminated timber (CLT) construction
- Installed by USG Levelrock® authorized applicators



| FUNCTIONAL UNIT – 1 SQUARE METER<br>CRADLE-TO- INSTALLATION WITH END-OF-LIFE (A1-A5, C1-C4) | LEVELROCK® BRAND<br>SAM-N25™ SUPREME |
|---|--------------------------------------|
| <b>Global Warming Potential (kg CO<sub>2</sub> eq.)</b>                                     | <b>1.56E+00</b>                      |
| <b>Ozone Depletion Potential (kg CFC 11 eq.)</b>  | <b>2.42E-10</b>                      |
| <b>Acidification Potential (kg SO<sub>2</sub> eq.)</b>                                      | <b>4.21E-03</b>                      |
| <b>Eutrophication Potential (kg N eq.)</b>  | <b>2.77E-04</b>                      |
| <b>Photochemical Ozone Creation Potential (kg O<sub>3</sub> eq.)</b>                        | <b>7.54E-02</b>                      |
| <b>Abiotic Resource Depletion Potential Fossil Fuels (MJ, LHV)</b>                          | <b>1.04E+01</b>                      |

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](http://usg.com) and [usg.ecomedes.com](http://usg.ecomedes.com).



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# Environmental Product Declaration

## Levelrock® Brand SAM-N25™ Supreme

### Sound Attenuation Mat



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 391  |  |
| PROGRAM OPERATOR  | ASTM International – 100 Barr Harbor Drive, West Conshohocken, PA USA<br>www.astm.org  |  |
| DECLARATION HOLDER  | United States Gypsum Company - 550 W. Adams St., Chicago, IL USA   |  |
| DECLARED PRODUCT  | Levelrock® Brand SAM-N25™ Supreme 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)   |  |
| <p>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)</p> <p><input type="checkbox"/> INTERNAL      <input checked="" type="checkbox"/> EXTERNAL</p> |  | Tim Brooke, ASTM International                   |
| <p>This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:</p>   |  | Thomas P. Gloria, Industrial Ecology Consultants |



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## Levelrock® Brand SAM-N25™ Supreme Sound Attenuation Mat



### 1. General Description

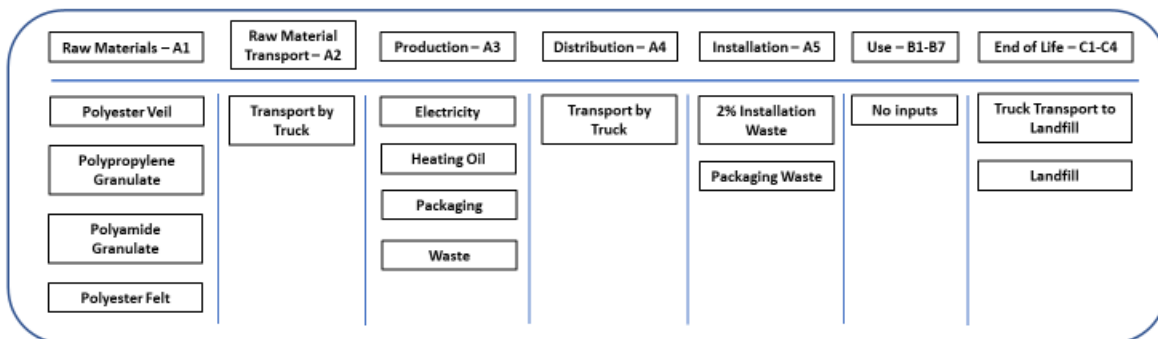
#### 1.1 Company Description

USG Levelrock® Brand Sound Attenuation Mat products are sold by USG Corporation, a leading North American manufacturer of building products and a subsidiary of Gebr. Knauf KG. Products are manufactured by a 3<sup>rd</sup> party manufacturer located in Maine, U.S.

#### 1.1 Product Description and Product Identification

Levelrock® Brand SAM-N25™ Supreme Sound Attenuation Mat is a premium sound mat designed to help meet or exceed the most demanding IIC requirements. It is a multi-layered mat featuring uniquely engineered lightweight glass fibers with high acoustical absorption. USG Levelrock® SAM-N25™ Supreme Sound Attenuation Mat can be installed over a variety of subfloors. It is ideal for use in CLT construction. Its 5/16 in. (8 mm) thickness can help address overall floor thickness limitations without having to sacrifice acoustical performance. USG Levelrock® Brand SAM-N25™ Supreme Sound Attenuation Mat requires a minimum 1 in. (25 mm) topping of USG Levelrock® Brand Floor Underlayment.

#### 1.2 Manufacturing Flow Diagram



#### 1.3 Material Composition

| Material                     | Levelrock® Brand SAM-N25™ Supreme Sound Attenuation |
|------------------------------|---|
| Polyester Veil               | 10%   |
| Polypropylene entangled core | 74%   |
| Backing Material             | 16  |
| Total                        | 100%  |

#### 1.4 Designated Application

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



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## Levelrock® Brand SAM-N25™ Supreme Sound Attenuation Mat



### 1.5 Technical Requirements

| USG Product   | Subfloor   | Sound Mat Thickness | Minimum USG Underlayment Thickness |
|---|--|---------------------|------------------------------------|
| Levelrock® Brand SAM-N25™ Supreme Sound Attenuation Mat | Wood, concrete, corrugated steel deck, structural panels | 5/16 in. (8 mm)     | 1 in. (25 mm)                      |

### 1.6 Properties of Declared Product as delivered

USG Levelrock® Brand SAM-N25™ Supreme Sound Attenuation Mat products arrive at the jobsite in rolls as noted below.

| Property               | Levelrock® SAM-N25™ Supreme Sound Attenuation Mat |
|------------------------|---|
| Roll Width (in.)       | 39.5  |
| Roll length (ft)       | 100   |
| Mat thickness (in.)    | 5/16  |
| Roll diameter (in.)    | 22  |
| Weight per roll (lbs.) | 49  |

## 2. General Description

### 2.1 Product Manufacturing

USG Levelrock® Brand Sound SAM-N25™ Supreme Sound Attenuation Mat consist of a polyester facer veil with a resilient entangled core made from polypropylene. 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. An acoustical backing material is applied on the bottom surface.

### 2.2 Packaging

USG Levelrock® Brand SAM-N25™ Supreme 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.



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## Levelrock® Brand SAM-N25™ Supreme Sound Attenuation Mat



### 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                       | 0.787        | l/100km           |
| Vehicle Type                         | Diesel truck |                   |
| Transport Distance                   | 1000         | km                |
| Transport Distance                   | 621          | miles             |
| Capacity Utilization                 | 0.670        | -                 |
| Gross density of product transported | 81.0         | kg/m <sup>3</sup> |
| Gross density of product transported | 5.1          | pcf               |

### 2.4 Product Installation

USG Levelrock® Brand SAM-N25™ Supreme 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 | 1.29E-02               | kg                |
| Mass of packaging waste (cardboard)          | 6.35E-03               | kg                |
| Mass of packaging waste (plastic film)       | 1.39E-03               | kg                |
| Biogenic carbon contained in packaging       | 6.35E-02               | kg CO2e           |
| Dust emission to ambient air, soil and water | NA                     | µg/m <sup>3</sup> |
| VOC in the air                               | NA                     | µg/m <sup>3</sup> |

### 2.5 Use

Levelrock® Brand SAM-N25™ Supreme 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  |       |



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### Sound Attenuation Mat



### 2.6 End-of-Life Disposal

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 appropriate 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-N25™ Supreme |
|--|-----------------------------------|
| Functional Unit                        | 1 m <sup>2</sup>                  |
| Functional Unit                        | 10.76 ft <sup>2</sup>             |
| Declared Thickness (cm)                | 0.794 cm.                         |
| Declared Thickness (inches)            | 5/16 in.                          |
| Surface Weight (kg/m <sup>2</sup> )    | 0.643                             |
| Surface Weight (lbs./ft <sup>2</sup> ) | 0.132                             |
| Gross Density (kg/m <sup>3</sup> )     | 81.0                              |
| Gross Density (lbs./ft <sup>3</sup> )  | 5.06                              |

### 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 is used for the building life.



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## Levelrock® Brand SAM-N25™ Supreme

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### 3.3 System Boundary

This EPD represents a cradle-to-installation with end-of-life LCA study for USG Levelrock® Brand SAM N25™ Supreme 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 based on supplier generated primary data. This would include such processes as the manufacture of the polyether 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.



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### 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.



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### Sound Attenuation Mat



#### 4. Environmental Indicators Derived from LCA

##### 4.1 Life Cycle Impact Assessment Results

| Environmental LCA Results for 1 Square Meter of Levelrock® Brand SAM-N25 Supreme (A1-A5, C1-C4) |                   |          |          |          |          |          |          |          |          |                    |
|---|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|--------------------|
| Impact Assessment Method: TRACI 2.1   | Units             | Stage    |          |          |          |          |          |          |          |                    |
|   |                   | A1-A3    | A4       | A5       | B1-B7    | C1       | C2       | C3       | C4       | Total A1-A5, C1-C4 |
| Environmental Impact Category   |                   | Impact   | Impact   | Impact   | Impact   | Impact   | Impact   | Impact   | Impact   | Impact             |
| Global Warming  | kg CO2 eq.        | 1.48E+00 | 2.56E-02 | 3.09E-02 | 0.00E+00 | 0.00E+00 | 1.94E-03 | 0.00E+00 | 2.70E-02 | 1.56E+00           |
| Ozone Depletion Potential (ODP)   | kg CFC 11 eq.     | 2.38E-10 | 2.60E-17 | 4.85E-12 | 0.00E+00 | 0.00E+00 | 3.68E-18 | 0.00E+00 | 8.67E-16 | 2.42E-10           |
| Acidification Potential   | kg SO2 eq.        | 3.96E-03 | 3.46E-05 | 8.37E-05 | 0.00E+00 | 0.00E+00 | 5.88E-06 | 0.00E+00 | 1.18E-04 | 4.21E-03           |
| Eutrophication Potential (EP)   | kg N eq.          | 2.61E-04 | 3.81E-06 | 5.57E-06 | 0.00E+00 | 0.00E+00 | 6.03E-07 | 0.00E+00 | 6.55E-06 | 2.77E-04           |
| Photochemical Ozone Creation Potential (POCP)   | kg O3 eq.         | 7.09E-02 | 7.83E-04 | 1.50E-03 | 0.00E+00 | 0.00E+00 | 1.34E-04 | 0.00E+00 | 2.07E-03 | 7.54E-02           |
| Abiotic Depletion Potential (ADP) - fossil fuels  | MJ surplus energy | 1.01E+01 | 2.56E-02 | 2.08E-01 | 0.00E+00 | 0.00E+00 | 3.63E-03 | 0.00E+00 | 5.22E-02 | 1.04E+01           |

| Environmental LCA Results for 1 Square Foot of Levelrock® Brand SAM-N25 Supreme (A1-A5, C1-C4) |                   |          |          |          |          |          |          |          |          |                    |
|--|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|--------------------|
| Impact Assessment Method: TRACI 2.1  | Units             | Stage    |          |          |          |          |          |          |          |                    |
|  |                   | A1-A3    | A4       | A5       | B1-B7    | C1       | C2       | C3       | C4       | Total A1-A5, C1-C4 |
| Environmental Impact Category  |                   | Impact   | Impact   | Impact   | Impact   | Impact   | Impact   | Impact   | Impact   | Impact             |
| Global Warming   | kg CO2 eq.        | 1.37E-01 | 2.38E-03 | 2.88E-03 | 0.00E+00 | 0.00E+00 | 1.80E-04 | 0.00E+00 | 2.51E-03 | 1.45E-01           |
| Ozone Depletion Potential (ODP)  | kg CFC 11 eq.     | 2.21E-11 | 2.42E-18 | 4.51E-13 | 0.00E+00 | 0.00E+00 | 3.42E-19 | 0.00E+00 | 8.05E-17 | 2.25E-11           |
| Acidification Potential  | kg SO2 eq.        | 3.68E-04 | 3.22E-06 | 7.77E-06 | 0.00E+00 | 0.00E+00 | 5.46E-07 | 0.00E+00 | 1.09E-05 | 3.91E-04           |
| Eutrophication Potential (EP)  | kg N eq.          | 2.42E-05 | 3.54E-07 | 5.18E-07 | 0.00E+00 | 0.00E+00 | 5.60E-08 | 0.00E+00 | 6.09E-07 | 2.58E-05           |
| Photochemical Ozone Creation Potential (POCP)  | kg O3 eq.         | 6.59E-03 | 7.28E-05 | 1.40E-04 | 0.00E+00 | 0.00E+00 | 1.25E-05 | 0.00E+00 | 1.92E-04 | 7.01E-03           |
| Abiotic Depletion Potential (ADP) - fossil fuels   | MJ surplus energy | 9.43E-01 | 2.38E-03 | 1.93E-02 | 0.00E+00 | 0.00E+00 | 3.37E-04 | 0.00E+00 | 4.85E-03 | 9.70E-01           |



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## Levelrock® Brand SAM-N25™ Supreme

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| Resource and Waste Flows for 1 Square Meter of Levelrock® Brand SAM-N25 Supreme (A1-A5, C1-C4) |            |           |          |          |          |          |          |          |          |                    |
|--|------------|-----------|----------|----------|----------|----------|----------|----------|----------|--------------------|
| Use of Primary Resources   | Units      | Stage     |          |          |          |          |          |          |          | Total A1-A5, C1-C4 |
|  |            | A1-A3     | A4       | A5       | B1-B7    | C1       | C2       | C3       | C4       |                    |
| Renewable primary resources used as an energy carrier (RPRE)                                   | MJ, NCV    | 1.15E+00  | 7.52E-03 | 2.41E-02 | 0.00E+00 | 0.00E+00 | 1.07E-03 | 0.00E+00 | 3.86E-02 | 1.22E+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    | 4.04E+01  | 1.93E-01 | 8.33E-01 | 0.00E+00 | 0.00E+00 | 2.74E-02 | 0.00E+00 | 4.12E-01 | 4.19E+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           |
| <b>Secondary material, secondary fuel and recovered energy</b>                                 |            |           |          |          |          |          |          |          |          |                    |
| 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         | 6.46E-03  | 2.70E-05 | 1.33E-04 | 0.00E+00 | 0.00E+00 | 3.83E-06 | 0.00E+00 | 5.92E-05 | 6.68E-03           |
| <b>Additional inventory parameters for transparency</b>  |            |           |          |          |          |          |          |          |          |                    |
| 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. | -6.70E-04 | 0.00E+00 | 6.70E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.08E-19           |
| Emissions from land use change   | kg CO2-eq. | 1.12E-04  | 9.64E-06 | 3.21E-06 | 0.00E+00 | 0.00E+00 | 1.36E-06 | 0.00E+00 | 9.81E-06 | 1.36E-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           |
| <b>Indicators describing waste</b>   |            |           |          |          |          |          |          |          |          |                    |
| Hazardous waste disposed   | kg         | 6.25E-07  | 8.04E-13 | 1.28E-08 | 0.00E+00 | 0.00E+00 | 1.14E-13 | 0.00E+00 | 1.54E-11 | 6.38E-07           |
| Non-hazardous waste disposed   | kg         | 1.05E-02  | 1.66E-05 | 1.96E-02 | 0.00E+00 | 0.00E+00 | 2.35E-06 | 0.00E+00 | 6.44E-01 | 6.74E-01           |
| High-level radioactive waste   | kg         | 4.35E-04  | 5.36E-07 | 8.94E-06 | 0.00E+00 | 0.00E+00 | 7.59E-08 | 0.00E+00 | 3.62E-06 | 4.48E-04           |
| Intermediate and low-level waste   | kg         | NA        | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA                 |
| <b>Assignments of output flows at the end-of-life</b>  |            |           |          |          |          |          |          |          |          |                    |
| 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-N25 Supreme (A1-A5, C1-C4) |            |           |          |          |          |          |          |          |          |                    |
|---|------------|-----------|----------|----------|----------|----------|----------|----------|----------|--------------------|
| Use of Primary Resources  | Units      | Stage     |          |          |          |          |          |          |          | Total A1-A5, C1-C4 |
|   |            | A1-A3     | A4       | A5       | B1-B7    | C1       | C2       | C3       | C4       |                    |
| Renewable primary resources used as an energy carrier (RPRE)                                  | MJ, NCV    | 1.07E-01  | 6.99E-04 | 2.24E-03 | 0.00E+00 | 0.00E+00 | 9.90E-05 | 0.00E+00 | 3.59E-03 | 1.13E-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    | 3.76E+00  | 1.80E-02 | 7.74E-02 | 0.00E+00 | 0.00E+00 | 2.55E-03 | 0.00E+00 | 3.83E-02 | 3.89E+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           |
| <b>Secondary material, secondary fuel and recovered energy</b>                                |            |           |          |          |          |          |          |          |          |                    |
| 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         | 6.00E-04  | 2.51E-06 | 1.24E-05 | 0.00E+00 | 0.00E+00 | 3.56E-07 | 0.00E+00 | 5.50E-06 | 6.21E-04           |
| <b>Additional inventory parameters for transparency</b>                                       |            |           |          |          |          |          |          |          |          |                    |
| 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. | -1.58E-06 | 0.00E+00 | 1.58E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.12E-22           |
| Emissions from land use change  | kg CO2-eq. | 1.04E-05  | 8.96E-07 | 2.99E-07 | 0.00E+00 | 0.00E+00 | 1.27E-07 | 0.00E+00 | 9.11E-07 | 1.27E-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           |
| <b>Indicators describing waste</b>  |            |           |          |          |          |          |          |          |          |                    |
| Hazardous waste disposed  | kg         | 5.81E-08  | 7.47E-14 | 1.19E-09 | 0.00E+00 | 0.00E+00 | 1.06E-14 | 0.00E+00 | 1.44E-12 | 5.93E-08           |
| Non-hazardous waste disposed  | kg         | 9.80E-04  | 1.55E-06 | 1.82E-03 | 0.00E+00 | 0.00E+00 | 2.19E-07 | 0.00E+00 | 5.99E-02 | 6.27E-02           |
| High-level radioactive waste  | kg         | 4.04E-05  | 4.98E-08 | 8.31E-07 | 0.00E+00 | 0.00E+00 | 7.06E-09 | 0.00E+00 | 3.36E-07 | 4.16E-05           |
| Intermediate and low-level waste  | kg         | NA        | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA                 |
| <b>Assignments of output flows at the end-of-life</b>   |            |           |          |          |          |          |          |          |          |                    |
| 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           |

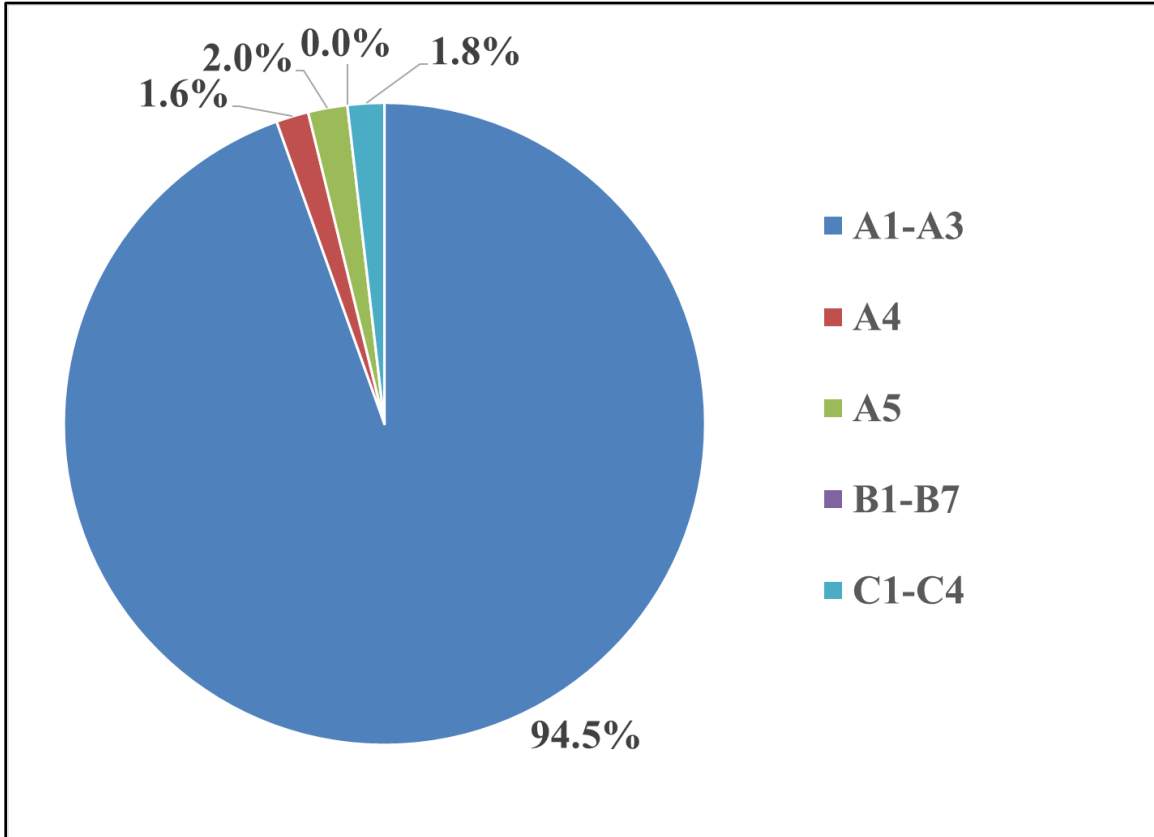


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## 5. LCA Interpretation

The LCA results for the production of USG Levelrock® Brand SAM-N25™ Supreme Sound Attenuation Mat were 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-N25™ Supreme Sound Attenuation Mat**



## 6. References

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### 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