

# Environmental Product Declaration



In accordance with ISO 14025 for:

## Framery 2Q

From

## framery

SERIOUS ABOUT HAPPINESS

|                          |                                                                                           |
|--------------------------|-------------------------------------------------------------------------------------------|
| Programme:               | The International EPD® System, <a href="http://www.environdec.com">www.environdec.com</a> |
| Programme operator:      | EPD International AB                                                                      |
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An EPD should provide current information, and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com).



## Programme information

|                   |                                                                                                                                                                                                                                                       |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Programme:</b> | <p>The International EPD® System</p> <p>EPD International AB<br/>Box 210 60<br/>SE-100 31 Stockholm<br/>Sweden</p> <p><a href="http://www.environdec.com">www.environdec.com</a><br/><a href="mailto:info@environdec.com">info@environdec.com</a></p> |
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| Product category rules (PCR): Furniture, except seats and mattresses, 2012:19, version 2.0, UNCPC 3812/3813/3814                                                                                                                                                                                                                           |
| PCR review was conducted by: The Technical Committee of the International EPD® System. A full list of members available on <a href="http://www.environdec.com">www.environdec.com</a> . The review panel may be contacted via <a href="mailto:info@environdec.com">info@environdec.com</a> . Chair of the PCR review: Gorka Benito Alonso. |
| Independent third-party verification of the declaration and data, according to ISO 14025:2006:<br><br><input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification                                                                                                                              |
| Third party verifier: Marcus Wendin, Miljögiraff AB<br><br>Approved by: The International EPD® System                                                                                                                                                                                                                                      |
| Procedure for follow-up of data during EPD validity involves third party verifier:<br><br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                              |

The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programmes may not be comparable.

## Company information

### Owner of the EPD:

Framery Oy, Patamäenkatu 7 33900 Tampere, Finland, sustainability@frameryacoustics.com

### Description of the organisation:

Framery is the pioneer and the world's leading manufacturer of soundproof private spaces for solving noise and privacy issues in open offices.

We are serious about happiness - Framery was born from a desire to solve a noise problem and bring happiness to an open office and is the essence and reason for everything we do. From our products which transform office behaviour making people happier and more efficient and our commitment to a happier more sustainable future, to the development of our own people and the way we work.

### Product-related or management system-related certifications:

Framery's management system is certified against ISO 9001, ISO 14001 and ISO 45001.

### Name and location of production site:

Framery Oy, Tampere Finland

## Product information

### Product name:

Framery 2Q

### Product description:

Framery 2Q is a sound-isolated, echo-free stand-alone workspace that is designed to be optimal for up to six persons (small meetings or conference calls). The 2Q decreases noise in open-plan offices. The exterior materials of the pod include painted sheet metal or brushed stainless steel with sound control laminated glass. The frame is formica laminate on birch plywood with varnish trim. The door frame is anodized aluminium. The interior walls and roof are a sandwich element of sheet metal, birch plywood, as well as acoustic and felt panels. The floor is an anti-static and stain resistant low loop pile carpet. 2Q comes with ventilation and lighting. The table is formica laminate on birch plywood with a varnish trim. By default, the 2Q does not include a screen.

### UN CPC code:

3812

### Geographical scope:

Global. The geographical scope is global based on the actual sales data to different countries which has been taken into account in the calculation

## LCA information

### Functional unit / declared unit:

The declared unit is one 2Q, maintained during its lifetime of 10 years (determined based on technical and esthetical aspects). The functional unit is defined as the lifetime of one 2Q.

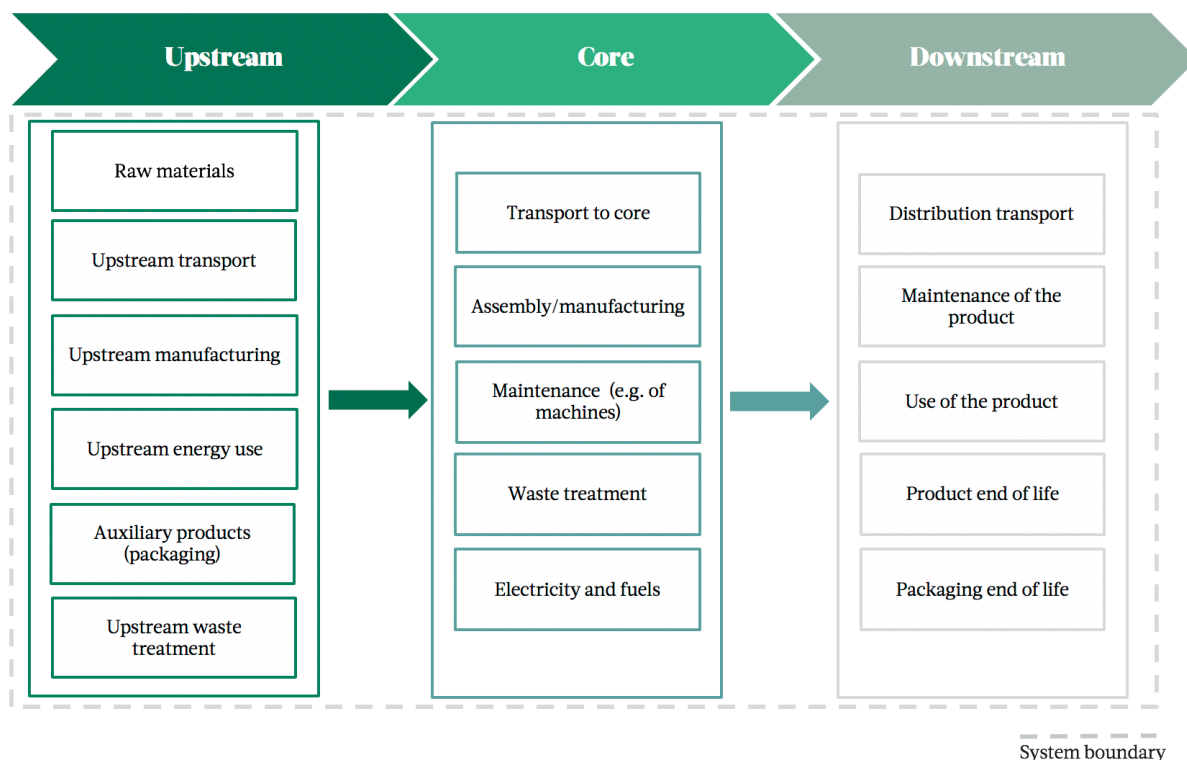
### Time representativeness:

Primary data for the LCA is based on production for a period of 12 months (year 2019). Other calculation data is based on the best available data at the time of preparing the LCA (10/2020).

### Database(s) and LCA software used:

Databases used include Ecoinvent 3.6, ELCD 3.2 and Industry data 2.0 (Plastics Europe, World Steel and ERASM). SimaPro LCA Software (SimaPro Analyst ver. 9.1.0.11) was used.

## System diagram:



Upstream processes include extraction and production of raw materials for all main parts and components, transportation of raw materials, manufacturing process for main parts, impacts due to energy in the upstream module, manufacturing of packaging and waste treatment of waste generated during upstream module. Core processes include transportation, assembly of the final product, treatment of waste generated during manufacturing and impacts due to energy used in the core module. Assembly of the pod is mainly manual, and no maintenance of machines is needed.

Downstream processes include distribution to customers, maintenance of the product, use of the product, end-of-life of the product and end-of-life of packaging.

## Description of system boundaries:

System boundary covers upstream, core and downstream (i.e. all life cycle stages from cradle to grave are taken into account).

## Excluded lifecycle stages:

All life cycle stages are included.

## More information:

LCA practitioner: Gaia Consulting Oy, Bulevardi 6A, 00120 Helsinki, Finland  
tel. +358 9 686 6620,  
info@gaia.fi

## Additional information:

### Assumptions:

- Distribution to customers was modelled based on actual sales data to different countries.
- Use phase energy consumption was estimated with average utilization rate based on Framery's expertise (this approach has been tested with sensitivity analysis for minimum and maximum electricity use in LCAs done for two other Framery pods). The energy mix used for calculating impacts

from use phase energy consumption was based on the sales data and the corresponding distribution countries.

- Maintenance of the product during the life time included replacement of wearing parts, as specified by Framery.
- At the end of life, the 2Q was assumed to be disassembled and plywood parts incinerated with energy recovery, steel components recycled, glass components landfilled and other components treated in waste incineration without energy recovery.
- Packaging waste was assumed to be recycled and incinerated with energy recovery.

Cut-off rules: 1% cut-off rule was applied for content declaration of the product.

Data quality: Primary data was collected from Framery and from suppliers of main components. Where supplier data was not comprehensive, it was complemented with similar supplier's data and selected generic data. For small parts (representing together 1,8 % of total mass) selected secondary (generic) data was used. Additionally, two suppliers provided data on raw materials and transports, but energy usage was estimated based on selected secondary (generic) data. Selected secondary (generic) data used are with system model "allocation, cut-off by classification".

Allocation:

- Supplier data concerning energy inputs was mostly provided as totals for supplier manufacturing and allocation rules needed to be applied to attribute energy use per material supplied for one 2Q pod. Mostly mass-based allocation was applied, except in one case where the number of 2Q pods produced, and in another, surface area of the component (carpet) were applied for allocation. In two cases, energy usage was estimated based on data from another supplier of a similar material (once for heat and once for electricity).
- Energy use for assembly and process waste created at Framery were allocated, as different pods (O, Q and 2Q) with different assembly times and sizes were produced during 2019.

## Content declaration

### *Product*

| Materials / chemical substances | kg         | %     | Environmental / hazardous properties |
|---------------------------------|------------|-------|--------------------------------------|
| Plywood                         | 362        | 37 %  |                                      |
| Glass                           | 219        | 23 %  |                                      |
| Steel                           | 282        | 29 %  |                                      |
| Aluminium                       | 22,6       | 2,3 % |                                      |
| Polyester                       | 66,7       | 6,9 % |                                      |
| Polyamide                       | 3,3        | 0,3 % |                                      |
| PMMA plastic                    | 2,6        | 0,3 % |                                      |
| Polycarbonate                   | 2,4        | 0,2 % |                                      |
| Synthetic rubber                | 8,6        | 0,9 % |                                      |
| Other                           | 3,2        | 0,3 % |                                      |
| <b>Total</b>                    | <b>973</b> |       |                                      |

### *Packaging*

#### *Distribution packaging:*

| Materials / chemical substances | kg         | %    | Environmental / hazardous properties |
|---------------------------------|------------|------|--------------------------------------|
| Plywood                         | 210        | 96 % |                                      |
| Cardboard                       | 5,84       | 3 %  |                                      |
| PE-LD plastic                   | 3,92       | 2 %  |                                      |
| <b>Total</b>                    | <b>220</b> |      |                                      |

## Environmental performance

### Potential environmental impact

| PARAMETER                                                  |                                  | UNIT                                 | Upstream | Core     | Downstream | TOTAL    |
|------------------------------------------------------------|----------------------------------|--------------------------------------|----------|----------|------------|----------|
| Global warming potential (GWP)                             | Fossil                           | kg CO <sub>2</sub> eq.               | 2 670    | 223      | 1 000      | 3 890    |
|                                                            | Biogenic                         | kg CO <sub>2</sub> eq.               | 1 020    | 269      | 941        | 2 230    |
|                                                            | Land use and land transformation | kg CO <sub>2</sub> eq.               | 5,09     | 21,4     | 1,03       | 27,5     |
|                                                            | TOTAL                            | kg CO <sub>2</sub> eq.               | 3 690    | 513      | 1 940      | 6 150    |
| Acidification potential (AP)                               |                                  | kg SO <sub>2</sub> eq.               | 13,7     | 0,889    | 6,99       | 21,6     |
| Eutrophication potential (EP)                              |                                  | kg PO <sub>4</sub> <sup>3-</sup> eq. | 3,92     | 0,446    | 2,14       | 6,51     |
| Photochemical oxidant formation (POFP)                     |                                  | kg NMVOC eq.                         | 11,0     | 0,79     | 5,57       | 17,3     |
| Abiotic depletion potential – Elements                     |                                  | kg Sb eq.                            | 5,70E-02 | 1,72E-04 | 6,49E-02   | 1,22E-01 |
| Abiotic depletion potential – Fossil resources             |                                  | MJ, net calorific value              | 35 500   | 1 660    | 10 600     | 47 700   |
| Water scarcity potential                                   |                                  | m <sup>3</sup> eq.                   | 893      | 78,1     | 160        | 1 130    |
| Formation potential of tropospheric ozone (POCP)           |                                  | kg C <sub>2</sub> H <sub>4</sub> eq. | 1,30     | 0,0397   | 0,324      | 1,66     |
| Depletion potential of the stratospheric ozone layer (ODP) |                                  | kg CFC 11 eq.                        | 6,65E-04 | 1,68E-05 | 1,67E-03   | 2,35E-03 |

### Use of resources

| PARAMETER                                |                       | UNIT                    | Upstream | Core  | Downstream | TOTAL  |
|------------------------------------------|-----------------------|-------------------------|----------|-------|------------|--------|
| Primary energy resources – Renewable     | Use as energy carrier | MJ, net calorific value | 4 650    | 3 070 | 1 210      | 8 940  |
|                                          | Used as raw materials | MJ, net calorific value | 32 900   | 0     | 0          | 32 900 |
|                                          | TOTAL                 | MJ, net calorific value | 37 500   | 3 070 | 1 210      | 41 800 |
| Primary energy resources – Non-renewable | Use as energy carrier | MJ, net calorific value | 35 300   | 1 910 | 9 390      | 46 600 |
|                                          | Used as raw materials | MJ, net calorific value | 9 770    | 0     | 4 970      | 14 700 |
|                                          | TOTAL                 | MJ, net calorific value | 45 000   | 1 910 | 14 400     | 61 300 |
| Secondary material                       |                       | kg                      | 0,0636   | 0     | 0          | 0      |
| Renewable secondary fuels                |                       | MJ, net calorific value | 0        | 0     | 0          | 0      |
| Non-renewable secondary fuels            |                       | MJ, net calorific value | 0        | 0     | 0          | 0      |
| Net use of fresh water                   |                       | m <sup>3</sup>          | 9 780    | 0,47  | 4,43       | 9 790  |

## Waste production and output flows

### Waste production

| PARAMETER                    | UNIT | Upstream | Core | Downstream | TOTAL    |
|------------------------------|------|----------|------|------------|----------|
| Hazardous waste disposed     | kg   | 1,18     | 0    | 0          | 1,18     |
| Non-hazardous waste disposed | kg   | 14,1     | 12,9 | 219        | 246      |
| Radioactive waste disposed   | kg   | 2,56E-03 | 0    | 0          | 2,56E-03 |

### Output flows

| PARAMETER                     | UNIT | Upstream | Core | Downstream | TOTAL    |
|-------------------------------|------|----------|------|------------|----------|
| Components for reuse          | kg   | 0        | 0    | 0          | 0        |
| Material for recycling        | kg   | 100      | 15,3 | 304        | 420      |
| Materials for energy recovery | kg   | 0,420    | 68,5 | 572        | 641      |
| Exported energy, electricity  | MJ   | 0,0360   | 0    | 0          | 0,035984 |
| Exported energy, thermal      | MJ   | 0,0751   | 0    | 0          | 0,07506  |

## Other environmental indicators

The following additional impact categories were calculated according to the PCR:

| PARAMETER                  | UNIT       | Upstream   | Core      | Downstream | TOTAL      |
|----------------------------|------------|------------|-----------|------------|------------|
| Human toxicity, cancer     | cases      | 2,54E-04   | 8,00E-06  | 7,59E-05   | 3,38E-04   |
| Human toxicity, non-cancer | cases      | 4,97E-04   | 5,05E-05  | 3,58E-04   | 9,06E-04   |
| Freshwater ecotoxicity     | PAF.m3.day | 23 800 000 | 2 350 000 | 39 500 000 | 65 700 000 |
| Land use                   | species.yr | 1,22E-05   | 3,75E-07  | 1,19E-07   | 1,27E-05   |

## References

General Programme Instructions of the International EPD® System. Version 3.0. 2017-12-11.

Product category rules (PCR): Furniture, except seats and mattresses, 2012:19, version 2.01, UNCPC 3812/3813/3814

Gaia Consulting, 2020: Life Cycle Assessment (LCA) of Sound-Isolated Workspace 2Q for Framery Acoustics. Primary data for LCA from Framery Acoustics and its suppliers in Appendix II: Separate excel file ("Framery LCA 2Q 2020 data and assumptions").

ISO 14025:2006, Environmental labels and declarations – Type III Environmental declarations – Principles and procedures

ISO 14040:2006, Environmental management – Life cycle assessment – Principles and framework

ISO 14044:2006, Environmental management – Life cycle assessment – Requirements and guidelines

