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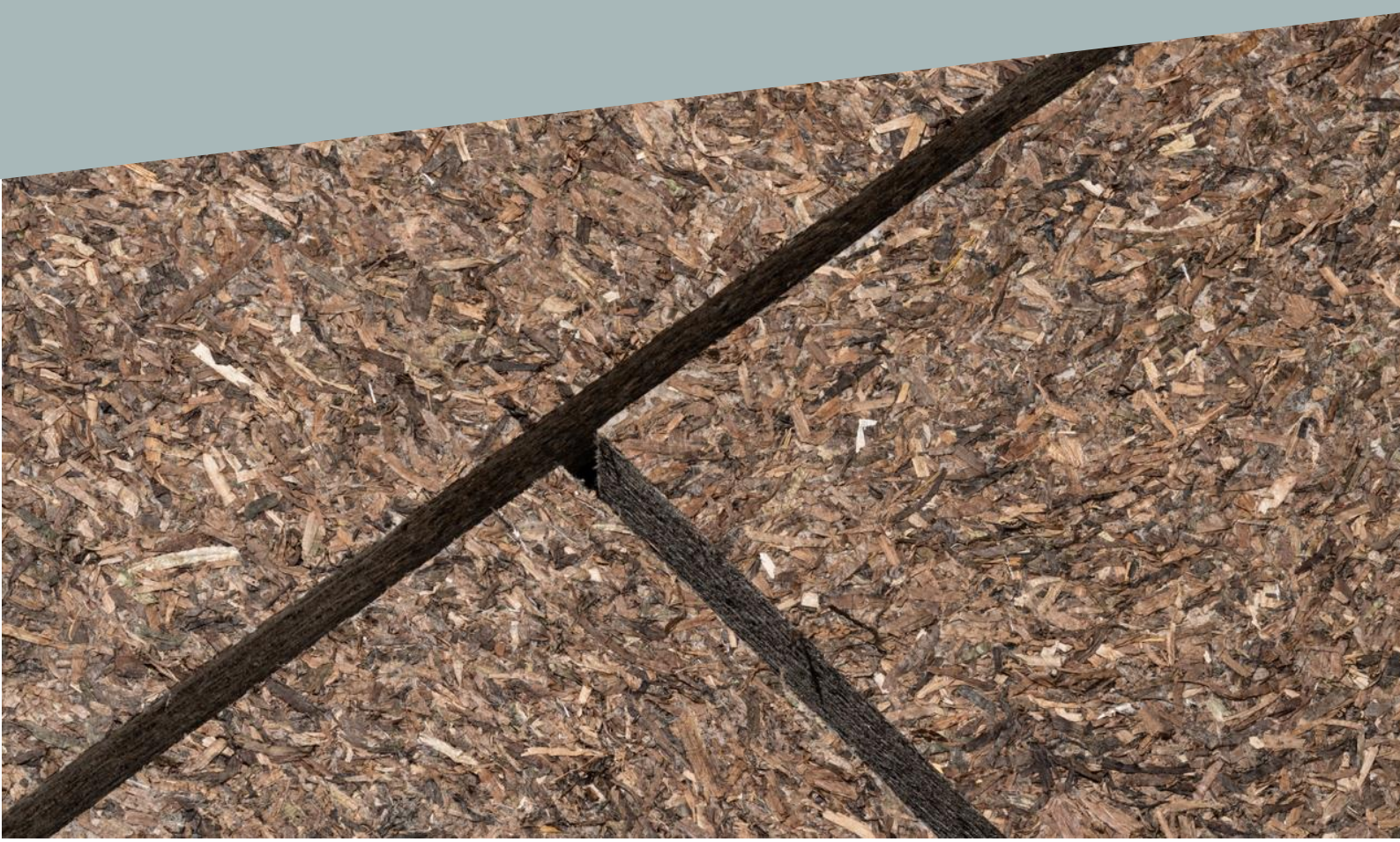
ECO PLATFORM EPD VERIFIED

Owner:	Søuld
No.:	MD-21034-EN_rev1
Issued first time:	02-08-2021
Issued:	23-03-2022
Valid to:	02-08-2026

3rd PARTY **VERIFIED**

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | **ISO 14025 & EN 15804**



Owner of declaration
Søuld ApS
Nordre Fasanvej 186B, 1.th
2000 Frederiksberg
VAT.:32841562

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
Søuld Acoustic Mats

Number of declared datasets/product variations: 2

Production site
Convert A/S
Håndværkervej 3
7700 Thisted

Product(s) use
Acoustic mats for walls and ceilings.

Declared/ functional unit
1 kg of Søuld Acoustic Mats with a thickness of 35 mm

Year of data
November 2020 - November 2021

Issued: 23-03-2022
Valid to: 23-03-2027

Basis of calculation
This EPD is developed in accordance with the European standard EN 15804+A2.

Comparability
EPDs of construction products may not be comparable if they do not comply with the requirements in EN 15804. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database.

Validity
This EPD has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue.

Use
The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

EPD type
☒Cradle-to-gate with modules C1-C4 and D
☐Cradle-to-gate with options, modules C1-C4 and D
☐Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:

Ninkie Bendtsen

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)																
Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Product information

Product description

This EPD contains two types of Søuld Acoustic Mats:

Product 1:
Søuld Acoustic Mats — Flameretardant

Product 2:
Søuld Acoustic Mats — Non-Flameretardant

Besides high sound absorption from Søuld Acoustic Mats, the mats also regulate moisture, accumulate heat and provide safety through fire resistance and durability through mould and rot resistance (Søuld Aps, 2021). Furthermore, the products are intended to be permanently integrated in the building, thus fulfilling the definition of a construction product.

The products are produced in Denmark and consists of eelgrass, flameretardant and adhesive (bicomponent fibers) as the material input.

The main product components are shown in the table below.

Material	Weight-% of declared Product 1	Weight-% of declared Product 2
Eelgrass	70 %	87.5 %
Flameretardant*	20 %	-
Adhesive	10 %	12.5 %

** Water is added in a ratio of 1:1 with the flameretardant and evaporates during production, thus is not included in the weight-%.*

Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production of 1 kg Søuld Acoustic Mats on the production site located in Thisted, Denmark. Product specific data (energy and material input) are based on average values collected in the period November 2020 to November 2021 from production of Søuld Acoustic Mats.

Background data are based on GaBi Professional Database 2020, supplemented with one dataset from Ecoinvent 3.6. Generally, the used generic background datasets are of high quality and less than 10 years old. In some cases, older dataset has been used to avoid data gaps in accordance with EN 15804+A2. The data were assessed bases on their quality and representativeness.

This EPD represent an EoL scenario for a Danish market, where 100% of the product is being incinerated after use.

Hazardous substances

Søuld Acoustic Panels do not contain substances listed in the ”Candidate List of Substances of Very High Concern for authorisation”. Absences of these substances is declared by the producer, Søuld ApS and the manufacturer of the flameretardant.

(http://echa.europa.eu/candidate-list-table)

Essential characteristics

Further technical information can be obtained by contacting the manufacturer or on the manufacturers website:

https://sould.dk/

Reference Service Life (RSL)

As the EPD is a “cradle-to-gate with modules C1-4 and D”, the use phase is not included in the system boundary. Since the use phase of the product is not declared in this EPD, the RSL is not needed and applicable in this case.

Because the product is a new product on the market, it does not yet have a declared service life of a guaranteed lifetime of the product.

Picture of product(s)

LCA background

Declared unit

The LCI and LCIA results in this EPD relates to the declared unit of 1 kg Søuld Acoustic Mats used for walls and ceilings.

Name	Value	Unit
Declared unit	1	kg
Density	137	kg/m^3
Conversion factor to 1 kg.	1	-
Conversion factor to 1 m^2	4.8	kg/m^2

The standard size of Søuld Acoustic Mats is the same for both variants:

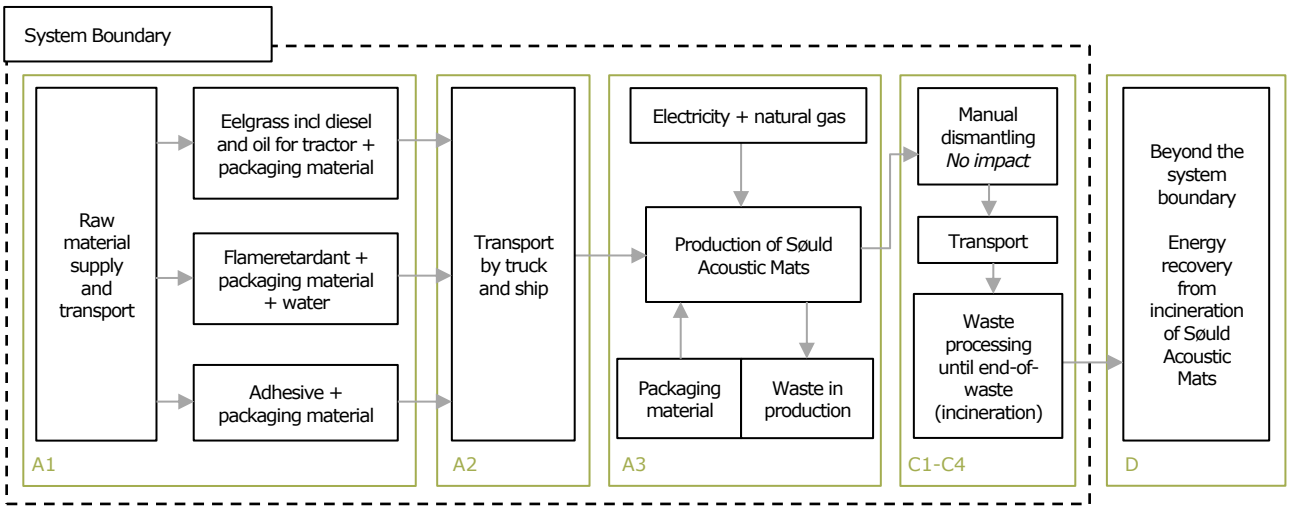
Product 1: Søuld Acoustic Mats – Flameretardant
- 600x1100x35mm (0.66 m^2 and 0.0231 m^3)

Product 2: Søuld Acoustic Mats – Non-Flameretardant
- 600x1100x35mm (0.66 m^2 and 0.0231 m^3)

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804+A2, which serves as the core PCR.

Flowdiagram



System boundary

This EPD is based on a "Cradle-to-gate with modules C1-C4 and D" LCA, in which 100 weight-% has been accounted for.

The general rules for the exclusion of inputs and outputs follows the requirements in EN 15804+A2, 6.3.5, where the total of neglected input flows per module shall be a maximum of 5% of energy usage and mass and 1% of energy usage and mass for unit processes.

Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials
A2 – Transport to the production site
A3 – Manufacturing processes

The product stage includes the extraction and processing of raw materials for input to the product system. This includes eelgrass (including stand/stone/impurities), spider-net packaging made of polypropylene (PP) for the eelgrass bales, flameretardant, IBC pallet tank as packaging material for the flameretardant, water, adhesive and plastic pallet + wrap + strips as packaging material for the adhesive. The transportation of the raw materials to the manufacturing is also included in the product stage. Furthermore, production of the packaging materials and the production process of manufacturing the product Søuld Acoustic Mats are also included. The production of Søuld Acoustic Mats includes shredding of eelgrass, impregnation, mixing the products in a nonwoven plant, a hot press of the product and cutting it into panels while running on a transport system. A 5.87% eelgrass waste takes place in shredding process and consists of 50% sand / stone / impurities from the eelgrass bales and 50% clean eelgrass. Management of generated waste is included up to the "end-of-waste" state or final disposal. This includes the waste of the eelgrass (sand/stone/impurities and clean eelgrass) and packaging material for the eelgrass bales, flameretardant and adhesive. When cutting the Søuld Acoustic Mats into the standard sizes the waste goes back into the nonwoven plant and is part of a new production of Søuld Acoustic Mats. Thus, this is an internal loop of waste and is not actual waste with a waste handling process.

The raw materials included in the product system originate from different suppliers with manufacturing processes in Poland, Ireland and Denmark, which are all transported by truck and ship to the manufacturing site in Thisted, Denmark. The manufacturing of Søuld Acoustic Mats includes electricity, natural gas for the production processes as well as electricity for the factory. The production of eelgrass bales includes the harvesting of eelgrass. The eelgrass is harvested directly from the beach with the use of a tractor. After the harvesting from the beach, the eelgrass is laid out to dry on a field after which it is rolled into eelgrass bales and packaged with a spider-net ready to be transported to the manufacturing site Convert A/S in Thisted. The diesel and motor oil for the tractor is included in the LCA model.

Packaging of the final product includes EU pallets (wood) and plastic wrapping. The EU pallet (wood), is assumed reused 10 times and the modelling has been done accordingly with only 10% virgin material input and 90% secondary material input (Miljøstyrelsen, 2005).

End of Life (C1-C4) includes:

C1 is assumed to be zero using manual dismantling. The end of life stage includes the transportation (C2) to the waste processing and the waste management after the use phase of the product. There is no use phase scenario included as the use stage (B1-7) is not declared in the EPD.

The end of life stage represents the waste scenario after a use stage where the product is assumed incinerated in module C3 with energy recovery accounted for in module D. The end of life scenario is based on the most likely Danish waste scenario for wood and other biomaterials (By og Byg, 2003) (Dall, et al., 2003). The generated waste in modules C3-4 is included up to the "end-of-waste" state, where the potential net benefit modeled as energy recovery is reported beyond the system boundary in module D.

Re-use, recovery and recycling potential (D) includes:

Module D includes reuse, recovery and/or recycling potential, expressed as net impact and benefits, due to reuse, recycling and incineration of materials with energy recovery in modules C1-C4. The product is assumed incinerated at the end of life stage in module C3, where an energy recovery from the incineration process is accounted for in module D. The energy recovery is based on the calorific values of the different raw materials. The eelgrass has a net calorific value of 14.1 MJ/kg, which has been used to calculate the energy recovery in module D (Kauschen, 2015).

Note

It should be noted that the uptake of the biogenic carbon from the packaging material (EU pallet of wood) in module A3 is usually released again in module A5, but module A5 is not declared in this EPD. The uptake of biogenic carbon in A3 from the packaging material is very small in relation to the total climate change indicator for A1-3, and there is only included an uptake of biogenic carbon from the 10% virgin wood material.

LCA results

Product 1: Søuld Acoustic Mats – Flameretardant

ENVIRONMENTAL IMPACTS PER 1 KG SØULD ACOUSTIC MATS							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	-3.64E-01	0.00E+00	2.30E-03	1.44E+00	0.00E+00	-3.18E-01
GWP-fossil	[kg CO_2 eq.]	5.78E-01	0.00E+00	2.26E-03	4.18E-01	0.00E+00	-3.19E-01
GWP-biogenic	[kg CO_2 eq.]	-9.43E-01	0.00E+00	2.46E-05	1.03E+00	0.00E+00	2.35E-03
GWP-luluc	[kg CO_2 eq.]	8.61E-04	0.00E+00	1.85E-05	2.09E-05	0.00E+00	-1.17E-03
ODP	[kg CFC 11 eq.]	5.45E-11	0.00E+00	4.19E-19	2.37E-16	0.00E+00	-5.38E-15
AP	[mol H^+ eq.]	2.55E-03	0.00E+00	2.64E-06	3.19E-04	0.00E+00	-8.84E-04
EP-freshwater	[kg P eq.]	1.88E-06	0.00E+00	6.96E-09	4.69E-08	0.00E+00	-3.89E-06
EP-marine	[kg N eq.]	2.48E-04	0.00E+00	8.11E-07	1.06E-04	0.00E+00	-2.87E-04
EP-terrestrial	[mol N eq.]	3.05E-03	0.00E+00	9.63E-06	1.51E-03	0.00E+00	-2.51E-03
POCP	[kg NMVOC eq.]	9.90E-04	0.00E+00	2.19E-06	2.85E-04	0.00E+00	-6.52E-04
ADPm[1]	[kg Sb eq.]	1.11E-05	0.00E+00	1.85E-10	3.73E-09	0.00E+00	-1.15E-07
ADPf[1]	[MJ]	1.38E+01	0.00E+00	3.05E-02	4.22E-01	0.00E+00	-3.68E+00
WDP[1]	[m^3]	9.20E-02	0.00E+00	2.23E-05	1.92E-01	0.00E+00	-3.46E-02
Caption	GWP-total = Global Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water use						
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.						

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1 KG SØULD ACOUSTIC MATS							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	2.22E-08	0.00E+00	1.75E-11	1.85E-09	0.00E+00	-7.06E-09
IRP[2]	[kBq U235 eq.]	3.50E-02	0.00E+00	8.32E-06	3.58E-03	0.00E+00	-1.41E-02
ETP-fw[1]	[CTUe]	5.85E+00	0.00E+00	2.28E-02	1.98E-01	0.00E+00	-1.24E+00
HTP-c[1]	[CTUh]	3.70E-10	0.00E+00	4.71E-13	1.45E-11	0.00E+00	-1.01E-10
HTP-nc[1]	[CTUh]	8.71E-09	0.00E+00	2.40E-11	1.00E-09	0.00E+00	-3.44E-09
SQP[1]	-	4.82E+00	0.00E+00	1.07E-02	1.14E-01	0.00E+00	-1.53E+01
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)						
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.						
	[2] This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.						

RESOURCE USE PER 1 KG SØULD ACOUSTIC MATS							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	1.19E+01	0.00E+00	1.76E-03	7.68E-02	0.00E+00	-7.14E+00
PERM	[MJ]	1.04E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	2.22E+01	0.00E+00	1.76E-03	7.68E-02	0.00E+00	-7.14E+00
PENRE	[MJ]	7.65E+00	0.00E+00	3.06E-02	4.22E-01	0.00E+00	-3.69E+00
PENRM	[MJ]	6.67E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	[MJ]	1.43E+01	0.00E+00	3.06E-02	4.22E-01	0.00E+00	-3.69E+00
SM	[kg]	1.09E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	[m^3]	2.59E-03	0.00E+00	2.05E-06	4.50E-03	0.00E+00	-2.22E-03
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						

WASTE CATEGORIES AND OUTPUT FLOWS PER 1 KG SØULD ACOUSTIC MATS							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	6.17E-08	0.00E+00	1.42E-09	5.70E-10	0.00E+00	-1.69E-08
NHWD	[kg]	3.46E-01	0.00E+00	4.85E-06	3.76E-02	0.00E+00	-1.12E-02
RWD	[kg]	2.18E-04	0.00E+00	5.64E-08	2.29E-05	0.00E+00	-1.32E-04
CRU	[kg]	5.00E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	[MJ]	0.00E+00	0.00E+00	0.00E+00	6.68E+00	0.00E+00	0.00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy						

BIOGENIC CARBON CONTENT PER 1 KG SØULD ACOUSTIC MATS		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	2.52E-01
Biogenic carbon content in accompanying packaging	[kg C]	4.81E-03
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

Product 2: Søuld Acoustic Mats – Non-Flameretardant

ENVIRONMENTAL IMPACTS PER 1 KG SØULD ACOUSTIC MATS							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	-7.47E-01	0.00E+00	2.30E-03	1.57E+00	0.00E+00	-3.52E-01
GWP-fossil	[kg CO_2 eq.]	4.25E-01	0.00E+00	2.26E-03	4.15E-01	0.00E+00	-3.54E-01
GWP-biogenic	[kg CO_2 eq.]	-1.17E+00	0.00E+00	2.46E-05	1.15E+00	0.00E+00	2.63E-03
GWP-luluc	[kg CO_2 eq.]	8.65E-04	0.00E+00	1.85E-05	1.74E-05	0.00E+00	-1.29E-03
ODP	[kg CFC 11 eq.]	6.42E-11	0.00E+00	4.19E-19	2.21E-16	0.00E+00	-6.02E-15
AP	[mol H^+ eq.]	7.84E-04	0.00E+00	2.64E-06	2.67E-04	0.00E+00	-9.71E-04
EP-freshwater	[kg P eq.]	7.53E-07	0.00E+00	6.96E-09	3.28E-08	0.00E+00	-4.26E-06
EP-marine	[kg N eq.]	2.05E-04	0.00E+00	8.11E-07	8.23E-05	0.00E+00	-3.15E-04
EP-terrestrial	[mol N eq.]	2.25E-03	0.00E+00	9.63E-06	1.26E-03	0.00E+00	-2.77E-03
POCP	[kg NMVOC eq.]	8.26E-04	0.00E+00	2.19E-06	2.26E-04	0.00E+00	-7.17E-04
ADPm[1]	[kg Sb eq.]	2.55E-07	0.00E+00	1.85E-10	3.51E-09	0.00E+00	-1.27E-07
ADPf[1]	[MJ]	1.27E+01	0.00E+00	3.05E-02	3.89E-01	0.00E+00	-4.08E+00
WDP[1]	[m^3]	6.76E-02	0.00E+00	2.23E-05	2.00E-01	0.00E+00	-3.80E-02
Caption	GWP-total = Global Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water use						
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.						

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1 KG SØULD ACOUSTIC MATS							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	1.14E-08	0.00E+00	1.75E-11	1.38E-09	0.00E+00	-7.77E-09
IRP[2]	[kBq U235 eq.]	2.62E-02	0.00E+00	8.32E-06	3.53E-03	0.00E+00	-1.57E-02
ETP-fw[1]	[CTUe]	6.58E+00	0.00E+00	2.28E-02	1.71E-01	0.00E+00	-1.37E+00
HTP-c[1]	[CTUh]	3.66E-10	0.00E+00	4.71E-13	1.24E-11	0.00E+00	-1.12E-10
HTP-nc[1]	[CTUh]	8.38E-09	0.00E+00	2.40E-11	4.22E-10	0.00E+00	-3.78E-09
SQP[1]	-	4.72E+00	0.00E+00	1.07E-02	1.09E-01	0.00E+00	-1.68E+01
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)						
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.						
	[2] This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.						

RESOURCE USE PER 1 KG SØULD ACOUSTIC MATS							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	1.15E+01	0.00E+00	1.76E-03	7.27E-02	0.00E+00	-7.87E+00
PERM	[MJ]	1.29E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	2.44E+01	0.00E+00	1.76E-03	7.27E-02	0.00E+00	-7.87E+00
PENRE	[MJ]	7.07E+00	0.00E+00	3.06E-02	3.89E-01	0.00E+00	-4.08E+00
PENRM	[MJ]	5.63E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	[MJ]	1.27E+01	0.00E+00	3.06E-02	3.89E-01	0.00E+00	-4.08E+00
SM	[kg]	1.04E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	[m^3]	1.93E-03	0.00E+00	2.05E-06	4.70E-03	0.00E+00	-2.47E-03
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						

WASTE CATEGORIES AND OUTPUT FLOWS PER 1 KG SØULD ACOUSTIC MATS							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	6.10E-08	0.00E+00	1.42E-09	2.70E-10	0.00E+00	-1.85E-08
NHWD	[kg]	3.29E-02	0.00E+00	4.85E-06	1.29E-02	0.00E+00	-1.24E-02
RWD	[kg]	1.64E-04	0.00E+00	5.64E-08	2.23E-05	0.00E+00	-1.48E-04
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	[MJ]	0.00E+00	0.00E+00	0.00E+00	7.34E+00	0.00E+00	0.00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy						

BIOGENIC CARBON CONTENT PER 1 KG SØULD ACOUSTIC MATS		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	3.15E-01
Biogenic carbon content in accompanying packaging	[kg C]	4.81E-03
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

Additional information

Technical information on scenarios

Transport to the building site (A4)

Scenario information	Value	Unit
Not relevant		-

Installation of the product in the building (A5)

Scenario information	Value	Unit
Packaging material (EU pallet) – 10% virgin material and 90% secondary material (includes nails and wood)	0.0115	kg
Packaging material (plastic wrap)	0.0020	kg

Reference service life

RSL information	Unit
RSL not relevant Søuld Acoustic Mats is a new product on the market. Thus, it does not yet have a declared service life of a guaranteed lifetime of the product.	-

Use (B1-B7)

Scenario information	Value	Unit
Not relevant		

End of life (C1-C4)

Scenario information	Value	Unit
Collected separately	1	kg
Collected with mixed waste	0	kg
For reuse	0	kg
For recycling	0	kg
For energy recovery	1	kg
For final disposal	0	kg

Re-use, recovery and recycling potential (D)

Scenario information/Materiel	Value	Unit
Søuld Acoustic Mats for incineration with Energy recovery (quantified with DK electricity mix and DK District heating mix)	1	kg

Indoor air

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on measurement of release of regulated dangerous substances from construction products using harmonised test methods according to the provisions of the respective technical committees for European product standards are not available.

Soil and water

The EPD does not give information on release of dangerous substances to soil and water because the horizontal standards on measurement of release of regulated dangerous substances from construction products using harmonised test methods according to the provisions of the respective technical committees for European product standards are not available.

References

Publisher	www.epddanmark.dk
Programme operator	Danish Technological Institute Buildings & Environment Gregersensvej DK-2630 Taastrup www.teknologisk.dk
LCA-practitioner	Nana Lin Rasmussen Rambøll A/S Hannemanns Allé 53 DK-2300 København S Denmark www.ramboll.dk
LCA software /background data	GaBi (version 9.2) Generic data are primarily based on life cycle inventory data from GaBi Professional Database 2020 and Ecoinvent version 3.6.
3rd party verifier	Ninkie Bendtsen NIRAS A/S Sortemosevej 19 DK-3450 Allerød www.niras.dk

General programme instructions
Version 2.0, www.epddanmark.dk

EN 15804
DS/EN 15804 + A2:2019 - "Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products"

EN 15942
DS/EN 15942:2011 – " Sustainability of construction works – Environmental product declarations – Communication format business-to-business"

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