Environmental Product Declaration

In accordance with ISO14025:2006 and EN15804:2012+A2:2019

DAMP ECO moisture barrier film 0,20 mm



Owner of the declaration:
Sustinera AS

Product name:
DAMP ECO moisture barrier film

Declared unit:
1 m2

Product category /PCR:
PCR 2019:14. Version 1.3.1. Construction products and NPCR 022 version 2.0 Roof waterproofing.

Program holder and publisher:
The Norwegian EPD foundation

Declaration number:
NEPD-8192-7862-EN

Registration number:
NEPD-8192-7862-EN

Issue date:
20.11.2024

Valid to:
20.11.2024

The Norwegian
EPD Foundation

General information

Product:
DAMP ECO moisture barrier film

Program operator:
The Norwegian EPD Foundation
Post Box 5250 Majorstuen, 0303 Oslo, Norway
Tlf: +47 23 08 80 00
e-mail: post@epd-norge.no

Declaration number:
NEPD-8192-7862-EN

This declaration is based on Product Category Rules:
PCR 2019:14. Version 1.3.4. Construction products and NPCR 022 version 2.0 Roof waterproofing.

Statement of liability:
The owner of the declaration shall be liable for the underlying information and evidence. EPD Norway shall not be liable with respect to manufacturer, life cycle assessment data and evidences.

Declared unit:
1 m^2 of DAMP ECO moisture barrier film in the thicknesses of 0,20 mm with a weight of 0,185 kg/m^2.

Verification:
Independent verification of the declaration and data, according to ISO14025:2010

internal ☐ external ☒



Silvia Vilčeková
Independent verifier approved by EPD Norway

Owner of the declaration:
Sustinera AS
Contact person: Espen Øvstebø
Tlf: +47 906 95 904
e-mail: espen@sustinera.no

Place of production:
Höganäs, Sweden

Management system:
ISO14001, ISCC Plus, IQD128 standard, ISO 9001, ISO 22000, SINTEF

Organisation no:
984 952 724

Issue date:
20.11.2024

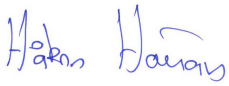
Valid to:
20.11.2029

Year of study:
2022

Comparability:
EPD of construction products may not be able to compare if they do not comply with EN 15804 and are seen in a building context.

The EPD has been worked out by:
Fanni Végvári, CarbonZero AB

Approved



Manager of EPD Norway

Company

Company information:

Sustinera AS is a Norwegian company that focuses on distribution of building and infrastructure products. We want to ensure good development and have a responsible use of the plastic we use in our products. For us, it is important to use environmentally friendly and durable products with a long lifespan, with a focus on resource utilization and long-term protection of houses and buildings.

Product

Product description:

The DAMP ECO moisture barrier film is produced in Höganäs, Sweden. This product is being sold and used in the construction industry. One of the uses of this product is for waterproofing sheets at placed in roofs. The plastic granulates are processed at different locations and are distributed in Norway.

Product specification:

The DAMP ECO is a moisture barrier film used to prevent moisture entering inside building structures. The product is manufactured according to the IQD128 standard, which ensures the quality of product manufacturing and verifies product properties and durability for at least 50 years. The barrier film is CE marked and is approved by Sintef for the Norwegian construction standard.

DAMP ECO barrier film 0,20 mm

Materials (product)	Value	Unit
LDPE	15,0	%
LLDPE	81,5	%
Pigment of colour and UV substance	3,5	%
Materials (packaging)	**Value**	**Unit**
Polyethylene (LDPE)	0,00047	%
Paper	0,00326	%

Technical data:

DAMP ECO moisture barrier film 0,20 mm: 1m^2 – 0,185kg.

Market:

This product is distributed within the Norwegian market.

Reference service life, product:

50 years.

LCA: Calculation rules

Declared unit:

1 m^2

Cut-off criteria:

The following procedures were followed for the exclusion of inputs and output.

- All input and output flows in a unit process were considered i.e., taking into account the value of all flows in the unit process and the corresponding LCI where data was available
- Generic national data was used for modules C1-C4 and D as no specific data was collected
- The use of cut-off criterion on mass inputs and primary energy at the unit process level (1%) and at the information module level (5%) was not applied as all inputs were included

In this study, no hazardous or toxic materials or substances are included in the product.

Assumptions and applications of average and generic data:

- It was assumed that the average distance between Sustinera and the installation site is 600 km and is a representative scenario
- It was assumed that trucks with a payload of 27 t were used to transport the materials and products
- It was assumed that the installation of the DAMP ECO moisture barrier film is done by hand as well as dismantled by hand
- It was assumed that the average transportation distance to a waste management facility is 50 km

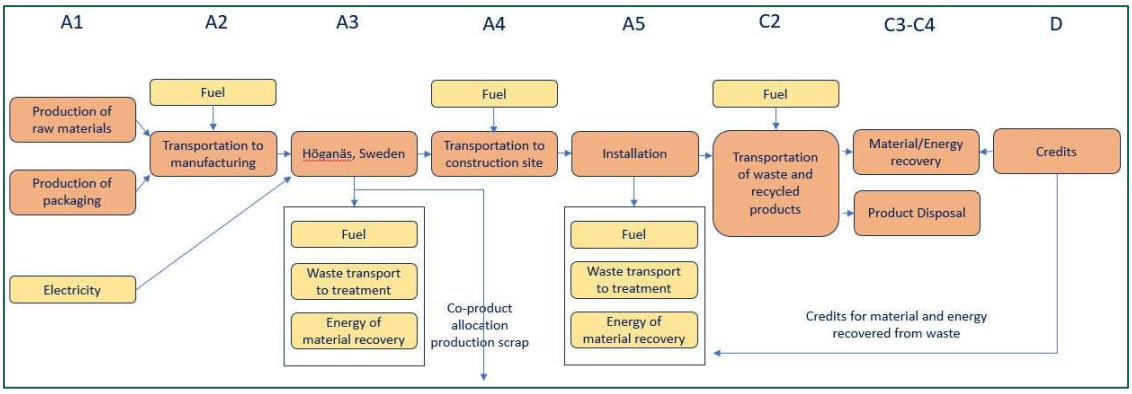
Allocation:

Allocation criteria is based on mass.

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

Product stage			Assembly stage		Use stage							End of life stage				Benefits & loads beyond system boundary
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	MNR	MNR	MNR	MNR	MNR	MNR	MNR	MNR	X	X	X	X

System boundary:



LCA: Scenarios and additional technical information

The following information describe the scenarios in the different scenario-based modules of the EPD.

Transport from production place to assembly/user (A4)

Transport from production place to assembly/user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy consumption
Average truck trailer with a 27 t payload	61	1500	0,019 l/tkm diesel

End of Life (C1, C3, C4)

The product is assumed to be dismantled by hand and therefore has no impact in C1. The average waste rates from Swedish and Norwegian statistics (SCB 2020, SSB 2021) which is considered being a representative scenario for the waste management.

Waste management	Value	Unit
Recycling	43	%
Incineration*	53	%
Landfill	4	%

*Note that the incineration includes energy recovery in module D.

Transport to waste processing (C2)

Transport from production place to assembly/user (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy consumption
Average truck trailer with a 27 t payload	61	50	0,019 l/tkm diesel

LCA: Results

Core environmental impact indicators

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP - total	kg CO_2 eq	3,70E-01	2,08E-02	6,56E-04	0,00E+00	6,37E-03	2,49E-01	5,14E-04	-2,69E-01
GWP - fossil	kg CO_2 eq	3,62E-01	1,99E-02	6,11E-04	0,00E+00	6,22E-03	2,49E-01	5,07E-04	-2,69E-01
GWP - biogenic	kg CO_2 eq	7,44E-03	8,95E-04	4,53E-05	0,00E+00	9,14E-05	6,66E-06	6,26E-06	-1,97E-05
GWP - luluc	kg CO_2 eq	1,14E-04	1,12E-06	3,24E-09	0,00E+00	5,74E-05	2,46E-07	4,19E-07	-2,52E-06
ODP	kg CFC11 eq	4,05E-09	4,65E-09	8,60E-15	0,00E+00	8,07E-16	1,18E-14	8,58E-16	-4,91E-14
AP	molc H+ eq	1,04E-03	5,88E-05	1,14E-06	0,00E+00	6,34E-06	2,46E-05	1,52E-06	-6,93E-04
EP- freshwater	kg P eq	1,48E-05	2,12E-07	1,77E-09	0,00E+00	2,27E-08	2,79E-09	9,77E-08	-3,48E-08
EP -marine	kg N eq	2,66E-04	1,73E-05	3,02E-07	0,00E+00	1,84E-06	5,15E-06	3,50E-07	-1,24E-04
EP - terrestrial	molc N eq	2,79E-03	1,90E-04	3,18E-06	0,00E+00	2,31E-05	1,15E-04	3,84E-06	-1,34E-03
POCP	kg NMVOC eq	1,58E-03	4,32E-05	8,16E-07	0,00E+00	5,33E-06	1,53E-05	1,11E-06	-3,83E-04
ADP-M&M[2]	kg Sb-Eq	1,02E-07	3,60E-09	7,70E-11	0,00E+00	4,11E-10	1,10E-10	1,35E-11	-1,55E-08
ADP-fossil[2]	MJ	1,52E+01	2,84E-01	1,22E-02	0,00E+00	8,45E-02	2,96E-02	7,62E-03	-8,07E+00
WDP[2]	m^3	4,26E-01	3,01E-04	1,04E-04	0,00E+00	7,49E-05	2,30E-02	-7,19E-06	-3,36E-01

GWP-total: *Global Warming Potential;* ***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:*** *Depletion potential of the stratospheric ozone layer;* ***AP:*** *Acidification potential, Accumulated Exceedance;* ***EP-freshwater:*** *Eutrophication potential, fraction of nutrients reaching freshwater end compartment; See "additional Norwegian requirements" for indicator given as PO4 eq.* ***EP-marine:*** *Eutrophication potential, fraction of nutrients reaching freshwater end compartment;* ***EP-terrestrial:*** *Eutrophication potential, Accumulated Exceedance;* ***POCP****: Formation potential of tropospheric ozone;* ***ADP-M&M****: Abiotic depletion potential for non-fossil resources (minerals and metals);* ***ADP-fossil:*** *Abiotic depletion potential for fossil resources;* ***WDP:*** *Water deprivation potential, deprivation weighted water consumption*

Reading example: 9,0 E-03 = 9,0*10-3 = 0,009

Voluntary environmental impact indicators

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG	kg CO_2 eq	3,68E-01	1,99E-02	6,15E-04	0,00E+00	6,24E-03	1,60E-02	4,62E-03	-4,29E-04

Additional environmental impact indicators

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	Disease incidence	1,39E-08	3,06E-10	1,06E-11	0,00E+00	1,29E-10	1,44E-10	1,48E-11	-2,48E-13
IRP[1]	kBq U235 eq.	1,71E+01	1,29E-03	2,59E-04	0,00E+00	2,37E-05	2,88E-04	1,33E-05	-9,63E-09
ETP-fw[2]	CTUe	3,28E+00	7,60E-02	2,69E-03	0,00E+00	6,05E-02	1,16E-02	6,48E-03	-2,00E-03
HTP-c[2]	CTUh	4,08E-09	1,22E-12	1,61E-13	0,00E+00	1,23E-12	1,61E-12	3,33E-13	-2,22E-02
HTP-nc[2]	CTUh	1,77E-09	2,21E-11	2,81E-12	0,00E+00	5,46E-11	1,21E-11	2,66E-11	-2,56E-11
SQP[2]	Dimensionless	7,42E-01	3,48E-02	3,82E-03	0,00E+00	3,53E-02	9,31E-03	6,58E-04	-1,23E-10

PM: *Particulate matter emissions;* ***IRP:*** *Ionising radiation, human health;* ***ETP-fw:*** *Ecotoxicity (freshwater);* ***ETP-c:*** *Human toxicity, cancer effects;* ***HTP-nc:*** *Human toxicity, non-cancer effects;* ***SQP:*** *Land use related impacts / soil quality*

[1] 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.

[2] The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Resource use

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
RPEE	MJ	6,87E-01	9,85E-04	5,87E-03	0,00E+00	6,15E-03	7,54E-03	6,85E-04	-9,09E-01
RPEM	MJ	5,87E-04	0,00E+00	-5,87E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
TPE	MJ	6,88E-01	9,85E-04	5,87E-03	0,00E+00	6,15E-03	7,54E-03	6,85E-04	-9,09E-01
NRPE	MJ	1,52E+01	2,84E-01	1,22E-02	0,00E+00	8,48E-02	2,96E-02	7,62E-03	-8,07E+00
NRPM	MJ	4,47E+01	0,00E+00	-2,18E-04	0,00E+00	0,00E+00	-4,47E+01	0,00E+00	0,00E+00
TRPE	MJ	5,98E+01	2,84E-01	1,22E-02	0,00E+00	8,48E-02	2,96E-02	7,62E-03	-8,07E+00
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
RSF	MJ	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00
W	m^3	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

RPEE *Renewable primary energy resources used as energy carrier;* ***RPEM*** *Renewable primary energy resources used as raw materials;* ***TPE*** *Total use of renewable primary energy resources;* ***NRPE*** *Nonrenewable primary energy resources used as energy carrier;* ***NRPM*** *Nonrenewable primary energy resources used as materials;* ***TRPE*** *Total use of non-renewable primary energy resources;* ***SM*** *Use of secondary materials;* ***RSF*** *Use of renewable secondary fuels;* ***NRSF*** *Use of non-renewable secondary fuels;* ***W*** *Use of net fresh water.*

End of life – Waste

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
HW	kg	-9,13E-11	3,85E-13	-3,22E-13	0,00E+00	2,63E-13	6,67E-13	6,40E-13	-4,60E-12
NHW	kg	5,97E-04	2,57E-07	-1,11E-04	0,00E+00	1,29E-05	9,86E-04	7,37E-03	-5,79E-04
RW	kg	1,76E-04	6,02E-08	1,56E-06	0,00E+00	1,59E-07	1,78E-06	9,03E-08	-1,71E-05

HW *Hazardous waste disposed;* ***NHW*** *Non-hazardous waste disposed;* ***RW*** *Radioactive waste disposed.*

End of life – output flow

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
CR	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
MR	kg	0,00E+00	0,00E+00	1,99E-02	0,00E+00	0,00E+00	6,55E-02	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	9,19E-03	0,00E+00	0,00E+00	1,05E-01	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,31E-01	0,00E+00	0,00E+00
ETE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-9,47E-01	0,00E+00	0,00E+00

CR *Components for reuse;* ***MR*** *Materials for recycling;* ***MER*** *Materials for energy recovery;* ***EEE*** *Exported electric energy;* ***ETE*** *Exported thermal energy.*

Information describing the biogenic carbon content at the factory gate

Biogenic carbon content*	Unit	Value
Biogenic carbon content in product	kg C	0,00E+00
Biogenic carbon content in the accompanying packaging	kg C	1,35E-05

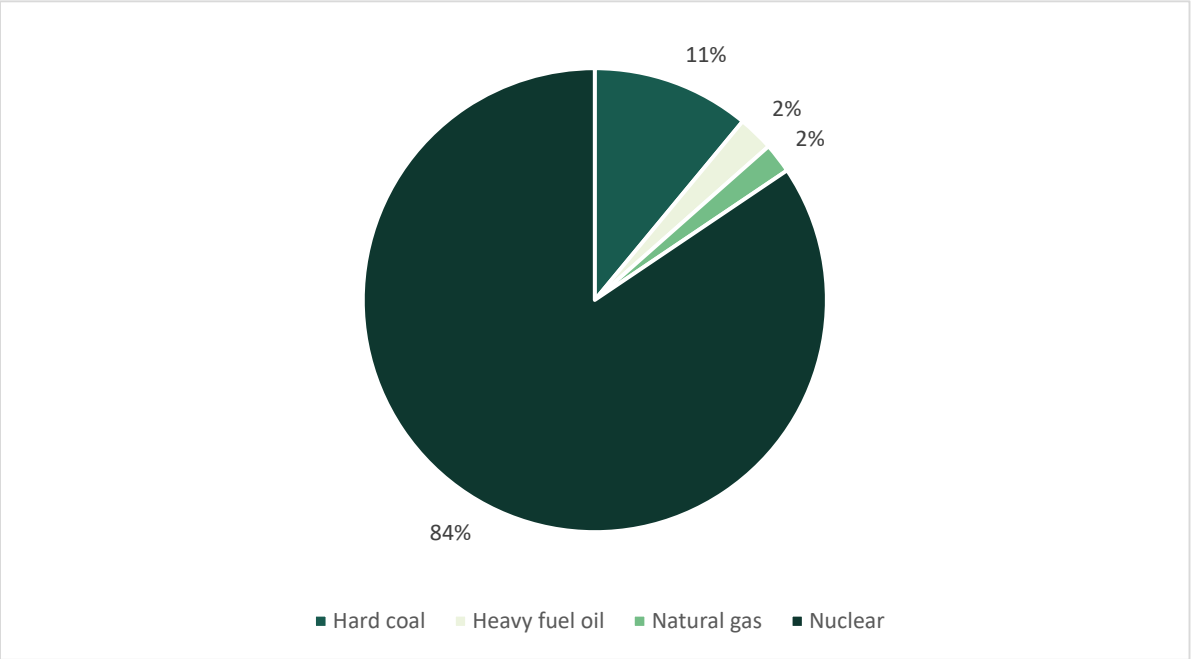
*44/12 is the ratio between the molecular mass of CO2 and C molecules

Additional requirements

Location based electricity mix from the use of electricity in manufacturing

The manufacturing process has been modelled and calculated according to the national residual mix with data retrieved from the Association of Issuing Bodies (2022).

National electricity grid	Data source	GWP excl. biogenic [kg CO2 -eq/kWh]
Swedish residual mix	AIB (2020)	0,037



Indoor Environment

The manufacturer has done emission measurements according to ISO 160000–9:2006 for volatile organic compounds (VOC). The test results are in compliance with the requirements.

Hazardous substances

The declaration is based upon reference to threshold values and/or test results and/or material safety data sheets provided to EPD verifiers. Documentation available upon request to EPD owner.

- ☒ The product contains no substances given by the REACH Candidate list.
- ☐ The product contains substances given by the REACH Candidate list that are less than 0,1 % by weight.
- ☐ The product contains dangerous substances, more then 0,1% by weight, given by the REACH Candidate List, see table.
- ☐ The product contains no substances given by the REACH Candidate list.
- ☐ The product is classified as hazardous waste, see table.

Bibliography

Association of Issuing Bodies	European Residual Mixes 2021 (2022) https://www.aib-net.org/sites/default/files/assets/facts/residual-mix/2021/AIB_2021_Residual_Mix_Results_1_1.pdf (Retrieved 2023-09-20)
EN 15804:2012+A2:2019	Sustainability of construction works - Environmental product declaration - Core rules for the product category of construction products
ISO 14025:2010	Environmental labels and declarations - Type III environmental declarations - Principles and procedures
ISO 14044:2006	Environmental management - Life cycle assessment - Requirements and guidelines
ISO 21930:2007	Sustainability in building construction - Environmental declaration of building products
NPCR 022	NPCR 022 Version 2.0 Roof Waterproofing
SCB	Swedish Statistics. (2020) Treated waste by treatment category and waste category. Every second year 2010 – 2020. https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__MI__MI0305/MI0305T003/(Retrieved 2023-09-20)
SSB	Statistics Norway. (2021) Waste account for Norway (1 000 tonnes), by treatment, contents, year and material. https://www.ssb.no/en/statbank/table/10513/tableViewLayout1/ (Retrieved 2023-10-30)

epd-norway Global Program Operator	**Program Operator**		
	The Norwegian EPD Foundation	tlf	+47 23 08 80 00
	Post Box 5250 Majorstuen, 0303 Oslo	e-post:	post@epd-norge.no
	Norway	web	www.epd-norge.no
epd-norway Global Program Operator	**Publisher**		
	The Norwegian EPD Foundation	tlf	+47 23 08 80 00
	Post Box 5250 Majorstuen, 0303 Oslo	e-post:	post@epd-norge.no
	Norway	web	www.epd-norge.no
sustinera	**Owner of the declaration**		
	Espen Øvstebø	tlf	+47 906 95 904
	Sustinera AS	e-post:	espen@sustinera.no
	Øvre Kluge 6 , 4334 Ålgård, Norway	web	www.sustinera.no
CARBONZERO	**Author of the life cycle assessment**		
	Fanni Végvári	tlf	+46 73 854 90 52
	CarbonZero AB	e-post:	info@eando.se
	Tåstrupsgatan 2, 262 32, Ängelholm, Sweden	web	www.eando.se
ECO PLATFORM EPD VERIFIED	ECO Platform ECO Portal	web web	www.eco-platform.org ECO Portal