

Environmental Product Declaration

In accordance with ISO 14025 and EN 15804 +A1



The Norwegian
EPD Foundation

Owner of the declaration:
3-C Production AB

Program holder and publisher:
The Norwegian EPD foundation

Declaration number:
NEPD-3349-1983-EN

Registration Number:
NEPD-3349-1983-EN

Issue date: 11.02.2022
Valid to: 11.02.2027

Product name:

CC-Fönsterdrev

Manufacturer:

3-C Production AB
Styrvägen 1, SE-311 50
Falkenberg, Sweden
<https://3c.nu/>

General information

Product:

CC-Fönsterdrev

Program Operator:

The Norwegian EPD Foudation
Post Box 5250 Majorstuen, 0303 Oslo, Norway
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Decleration Number:

NEPD-3349-1983-EN

This declaration is based on Product

Category Rules:

NPCR Construction products and services – Part A

Statements:

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. This is a specific product EPD. EPD of construction products may not be comparable if they do not comply with EN 15804.

Declared unit:

1 m² thermal insulation with R_D-value
0.36 m²K/W

Verification:

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

internal external

Sign



Independent verifier approved by EPD Norway

Owner of the declaration:

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Organisation no:

556555-2170

Issue date:

11.02.2022

Valid to:

11.02.2027

Year of study:

2020

Comparability:

EPDs from other programmes than EPD-Norge may not be comparable.

The EPD has been worked out by:

Peter Ylmén, RISE Research Institutes of Sweden



Approved

Manager of EPD Norway

Product

Product description:

CC-Fönsterdrev consists of 30 mm thick impregnated plastic foam with fine pores that have been compressed to a thickness of 2 mm. The intended use is as insulation around windows. It is cut to suitable length and inserted in slit between the the frame and the side piece of the window. At normal temperatures is expands to full thickness at around 1-3 hours. It has two variants, one standard variant without adhesive and one variant with applied adhesive.

Materials	KG	%
Flexible polyurethane foam	0.78	56
Bitumen	0.23	17
Adhesive	0.17	12
PE-foil	0.11	8
Paper sleeves	0.04	3
Vacuum plastic	0.03	2
Stretch film	0.02	1
Labels	0.01	1

Technical data:

Technical documts regarding the product can be found on 3-C Production AB's homepage.

Heat conductivity 0.033 W/mK measured according to SS 24211. Declared heat conductivity is measured at a thickness of 12 mm, which is a normal thickness in real life applications.

Density approx. 40 kg/m³

Market:

The product is manufactured in Falkenberg, Sweden and sold in the Northen Europe market for building products.

Expected service time of product:

50 years

LCA: Calculation rules

Declated unit:

1 m² thermal insulation with R_D-value 0.36 m²K/W

Data quality:

Data quality follows the requirements in EN 15804:2012+A1:2013 and NEPD Part A ver. 1.0 (April 2017).

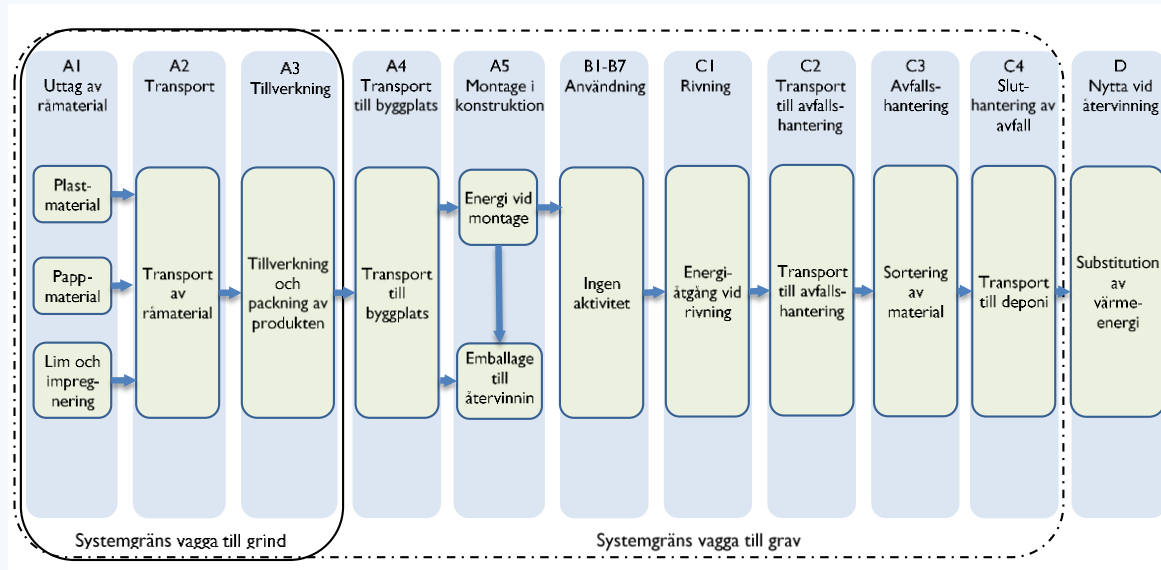
The data from the product manufacturing are specific data from year 2020 measured on site. These are therefore of high geographical, technological and temporal relevance. The background data on the materials are gathered from Ecoinvent 3.7 and therefore have less accuracy regarding geographical, technological and temporal relevance these aspects. The quality of the generic data was reviewed according to Table E2 in EN 15804:2012+A2:2019. The generic data will introduce some uncertainties regarding the absolute values in the results. All the used datasets have at least fair quality regarding time and technological relevance and adheres to the criteria in EN 15804, since no dataset is older than 5 years. However, the waste treatment for bitumen have poor geographical relevance, as it is representative for Switzerland instead of Sweden. Since it is such small amounts of waste for the bitumen it has less than 1 % of the total impact and the low geographical relevance will therefore not have a significant impact on the results.

Allocation:

There are only one production site that produces CC-Fönsterdrev and there are no co-products. Packaging differed for the different sizes and was allocated based on mass allocation. Electricity for the production that was allocated from the total produced weight during a year to the weight of the declared unit.

System boundary:

This EPD provides information regarding environmental performance from cradle to gate. The included modules are the production (A1-A3) and transport to a central storage (A4). The product consist of fossil materials based on oil with boundary to nature as extraction of the raw oil from the ground. The boundary for the biobased packaging includes harvesting of the wood. Only primary materials are used with no reuse of materials, processing of secondary materials as input in A1. The manufacturing of the product is made by impregnating sheets of polyurethane flexible foam with bitumen by dipping the foam in bitumen solution. The sheets are then dried for 4 days and thereafter rolled onto paper sleeves, cut to size and packaged. The assumed scenario for A4 is transport by lorry from the manufacturing facility in Falkenberg (Sweden) to a central storage in Hallsberg (Sweden) with a distance of 395 km. Other modules in the life cycle of the product – assembly stage (A5), use stage (B1-B7), end of life stage (C1-C4) and benefits and loads beyond the system boundary (D) – are not included.



Cut-off criteria:

The pallet used for transportation of the product is connected to a recycling system and reused approximately 9 times. A pallet fits 1200 units of CC-fönsterdrev, which means that the needed weight of pallet for the declared unit is less than 0.3% and therefore not included in the calculations.

LCA: Results

System boundaries (X=included, MNA= module not assessed, MNR=module not relevant)

Product stage			Assembly stage		Use stage								End of life stage				Etter endt levetid
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	MNA	MNR	MNR	MNR	MNA	MNR	MNR	MNR	MNA	MNA	MNA	MNA	MNA	

Environmental impact

Parameter	Unit	A1-A3	A4
GWP	kg CO2 -eq.	5.90 E0	8.07 E-2
ODP	kg CFC11-eq.	1.58 E-7	1.48 E-8
POCP	kg C2H4 -eq.	2.90 E-2	2.60 E-4
AP	kg SO2 -eq.	3.03 E-2	2.40 E-4
EP	kg PO43--eq.	5.44 E-3	3.16 E-5
ADPM	kg Sb-eq.	2.41 E-6	1.40 E-9
ADPE	MJ	9.94 E1	1.14 E0

GWP Global warming potential; ODP Depletion potential of the stratospheric ozone layer; POCP Formation potential of tropospheric photochemical oxidants; AP Acidification potential of land and water; EP Eutrophication potential; ADPM Abiotic depletion potential for non fossil resources; ADPE Abiotic depletion potential for fossil resources

Resource use

Parameter	Unit	A1-A3	A4
RPEE	MJ	1.02 E1	1.67 E-3
RPEM	MJ	0.00 E0	0.00 E0
TPE	MJ	1.02 E1	1.67 E-3
NRPE	MJ	6.07 E1	6.07 E1
NRPM	MJ	5.77 E1	0.00 E0
TRPE	MJ	1.18 E2	1.14 E0
SM	kg	0.00 E0	0.00 E0
RSF	MJ	0.00 E0	0.00 E0
NRSF	MJ	0.00 E0	0.00 E0
W	m ³	1.70 E2	7.04 E-2

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 Non renewable primary energy resources used as energy carrier; NRPM Non renewable 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
HW	KG	5.11 E-5	0.00 E0
NHW	KG	4.18 E-1	0.00 E0
RW	KG	1.80 E-4	0.00 E0

HW Hazardous waste disposed; NHW Non hazardous waste disposed; RW Radioactive waste disposed

End of life – output flow

Parameter	Unit	A1-A3	A4
CR	kg	0.00 E0	0.00 E0
MR	kg	2.53 E-2	0.00 E0
MER	kg	1.84 E-1	0.00 E0
EEE	MJ	0.00 E0	0.00 E0
ETE	MJ	3.30 E0	0.00 E0

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

Reading example: $9.0 \text{ E-3} = 9.0 \cdot 10^{-3} = 0.009$

Additional Norwegian requirements

Greenhouse gas emission from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process(A3).

Self generated solar electricity $2.50 \text{ E-2 kg CO}_2\text{-eq/kWh}$ (45%)

Swedish average electricity mix $3.07 \text{ E-2 kg CO}_2\text{-eq/kWh}$ (55%)

Dangerous substances

- The product contains substances given by the REACH Candidate list or the Norwegian priority list that are less than 0.01 % by weight. The product is evaluated according to the Swedish systems BASTA (www.bastaonline.se), Byggvarubedömningen (www.byggvarubedomningen.se) and Svanen (www.svanen.se) regarding dangerous substances.

Name	CAS no.	Amount
Naphta	64742-82-1	<0.01 %

Indoor environment

The product meets the requirements for low emissions.





Carbon footprint

Carbon footprint has not been worked out for the product.

Bibliography

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
EN 15804:2012+A1:2013	Sustainability of construction works - Environmental product declaration - Core rules for the product category of construction products
ISO 21930:2007	Sustainability in building construction - Environmental declaration of building products
EN 16783:2017	Thermal insulation products – Product category rules (PCR) for factory made and in-situ formed products for preparing environmental product declarations
SS 24211	Värmeisolering - Bestämning av värmemotstånd eller värmekonduktivitet (värmeledningsförmåga) med värmeflödesmätapparater

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