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EPD-Norge logo

ENVIRONMENTAL PRODUCT DECLARATION

in accordance with ISO 14025, ISO 21930 and EN 15804

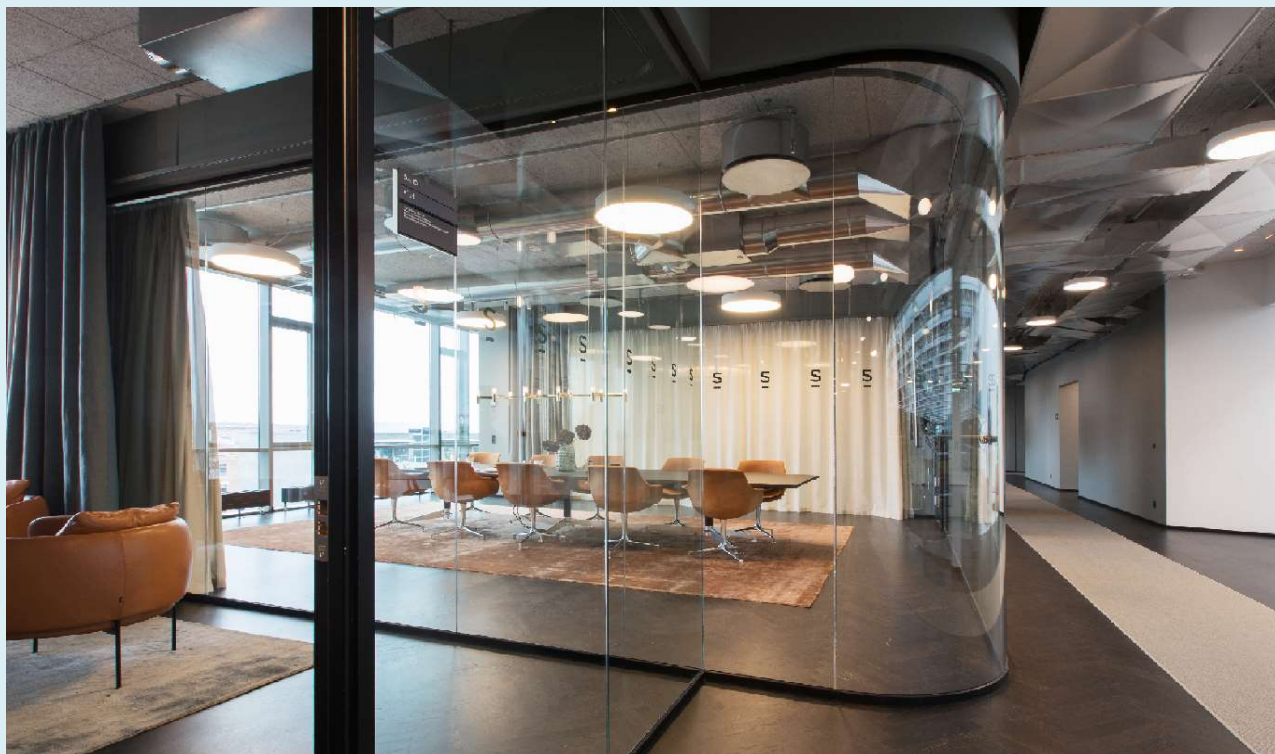
Owner of the declaration:	DEKO p/s
Program operator:	The Norwegian EPD Foundation
Publisher:	The Norwegian EPD Foundation
Declaration number:	<From EPD-Norge>
Registration number:	<From EPD-Norge>
ECO Platform reference number:	<From EPD-Norge>
Issue date:	<xx.xx.xxxx>
Valid to:	<xx.xx.xxxx>

FG Clear - Glazed Partitions

DEKO p/s



www.epd-norge.no



General information

Product:

FG Clear glazed partition system

Program operator:

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

Declaration number:

<From EPD-Norge>

ECO Platform reference number:

<From EPD-Norge>

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR. PCR for Room Partition Systems, v. 1.7, by the Institut Bauen und Umwelt. Date of PCR version: 8.1.2019.

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 information, life cycle assessment data and evidences.

Declared unit:

9 m² glazed partition system, including components needed for installation up against stationary walls, roof and floor.

Functional unit (cradle-to-grave LCA)

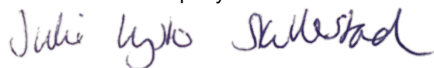
Providing room partition and acoustic insulation on 9 m² with a reference service life (RSL) of at least 30 years.

Verification:

The CEN Norm EN 15804 serves as the core PCR. Independent verification of the declaration and data, according to ISO14025:2010

internal external

Third party verifier:



(Independent verifier approved by EPD Norway)

Owner of the declaration:

DEKO p/s
 Contact person: Simon S. B. Jensen
 Phone: +45 2887 2030
 e-mail: sbj@deko.dk

Manufacturer:

DEKO p/s
 Mårkærvej 11, 2630 Tåstrup, DK
 Phone: +45 43 55 77 11
 e-mail: info@deko.dk

Place of manufacture:

Tåstrup, Denmark

Management system:

According to OHSAS 18001
 According to ISO 9001

Organisation no:

<123456789MVA fill in>

Issue date:

<xx.xx.xxxx>

Valid to:

<xx.xx.xxxx>

Year of study:

2021

Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.

The EPD has been worked out by:

Trine Henriksen and Trine Lund Neidel

Trine Henriksen

Trine Lund Neidel



Approved

sign

<Name>

(Managing Director EPD-Norway)

Product

Product description:

This EPD refers to the glazed partition system FG Clear with a glass pane thickness of 12.76 mm and 16.76 mm. FG Clear is used for division of indoor spaces providing an optimal view in the room and day light conditions providing a stable and soundproof wall with a prefabricated clear and almost invisible joint. It is built as a modular system with glass panes (approx. 97% of the product) mounted to floor and roof with aluminium profiles. The design of the partition system makes it easy to disassemble into the individual product parts. Thus, at the end-of-life the product parts can be recycled.

Product specification:

The material composition of the FG Clear glazed partitions (9 m²) and the

Materials	FG Clear		FG Clear	
	12.76 mm		16.76 mm	
	kg	%	kg	%
Laminated glass pane	270	96.8	360	97.5
Aluminum profile	7.40	2.66	7.90	2.14
Acrylic joint tape	0.20	0.07	0.29	0.08
Chocks/gaskets, PVC	1.10	0.38	0.97	0.26
Nail plugs, steel	0.12	0.04	0.12	0.03
Nail plugs, polyamide	0.02	0.01	0.02	0.01
SUM	279	100	369	100

Packaging material	FG Clear (12.76 mm, 16.76 mm)
Wood (pallet)	38.5 kg
Cardboard	1.46 kg
Steel straps	0.69 kg
Plastic PE (foil, etc.)	1.36 kg
Plastic straps, PP	0.05 kg
Packaging tape, PVC	0.10 kg
Soft masonite (tree fibers)	0.10 kg
Cork	0.01 kg
SUM	42.2 kg

LCA: Calculation rules

Declared unit:

Production of 9 m² glazed partition system, including components needed for installation up against stationary walls, roof, and floor.

Cut-off criteria:

All major raw materials and all the essential energy is included. The production process for energy flows which represent very small amounts (<1%) are not included (energy use for assembly and disassembly). This cut-off rule does not apply for hazardous materials and substances.

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through economic allocation. Effects of primary production of recycled materials allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

Data quality:

Specific data for usage of energy and materials are provided by the manufacturer for December to January 2019. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on generic data from the GaBi Professional 2020 database. The data is representative according to temporal, geographical and technological requirements. Most generic datasets from the applied database had the reference year 2019.

Technical data:

Dimensions and weight of a standard module:

Width:	3 000 mm
Height:	3 000 mm
Thickness:	12.76 mm and 16.76 mm
Area:	9 m ²
Weight:	279 kg (12.76 mm) 369 kg (16.76 mm)

Sound insulation index R (range for normal PVB laminate to sound PVB laminate):

- 12.76 mm glass = 36-40 dB
- 16.76 mm glass = 39-42 dB

Market:

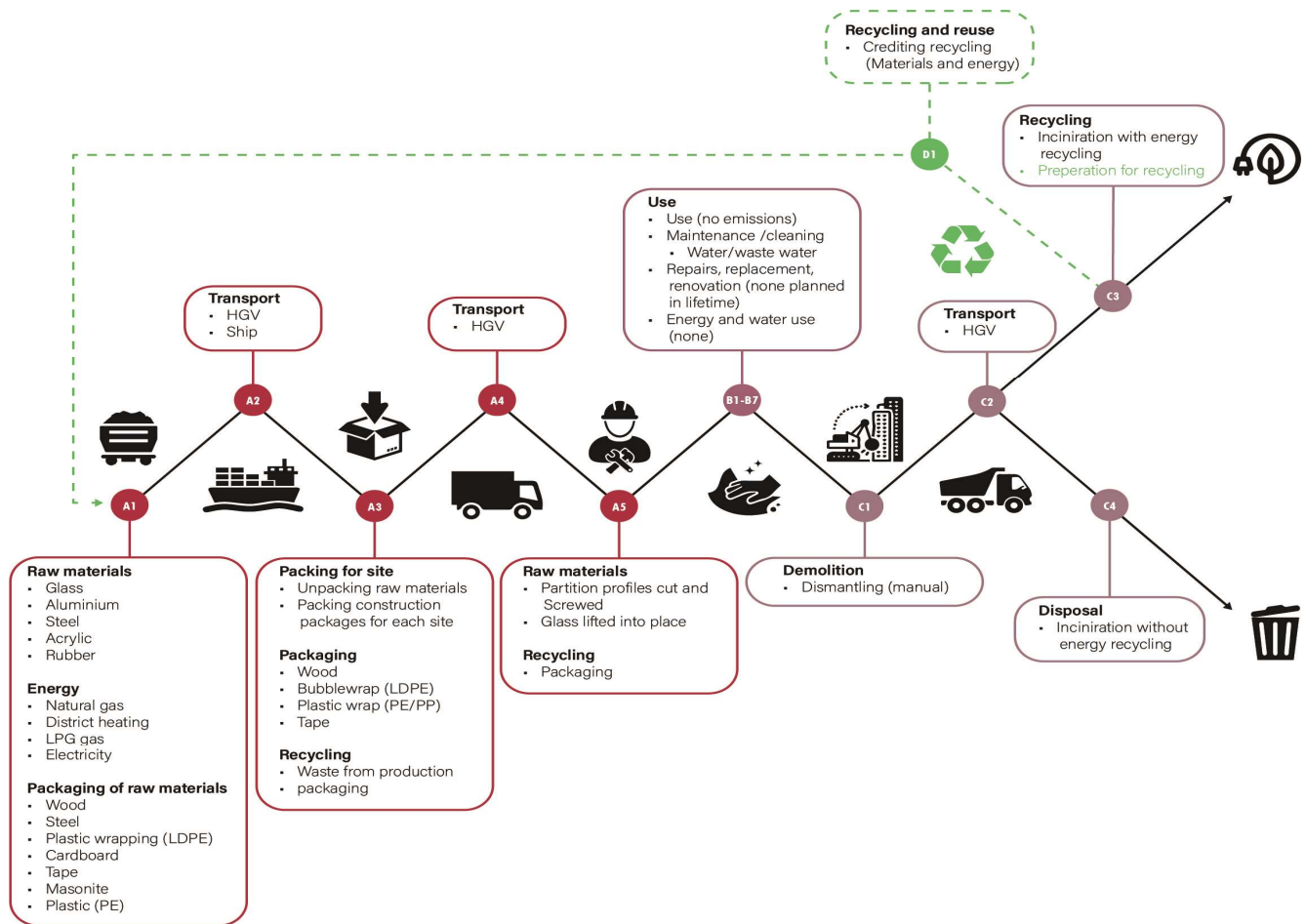
Norway and Nordic countries

Reference service life, product:

At least 30 years

System boundary:

This study is cradle-to-grave and covers all the relevant life cycle stages and modules in accordance with the requirements in EN15804:2012+A2:2019. See below flowsheet.



LCA: Scenarios and additional technical information

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

Transport from production place to installation site (A4)

This module includes transport to the site of assembly and installation. Same distance for declared product and accompanying packaging materials. The estimation of average distance represents transportation from Tåstrup, Denmark to Oslo, Norway.

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel consumption
Lorry	0.55	Truck, Euro-5, 20-26 ton gross weight	621	0.0027 l/tkm

Assembly (A5)

The installation of the FG Clear partition system does not require any use of materials or energy. The walls are fitted and installed manually with the use of basic hand tools, including a drill. Usage of manual tools have not been included in this assessment. During the installation of the components, packagings are sorted and disposed, and the aluminium profiles are cut to the required lengths. The waste processing of the packagings and aluminium is the only flows reported in module A5. See table below.

	Unit	Value	Waste treatment method	Distance to waste treatment
Aluminum cut-offs	kg	2.4 (12.76 mm) 2.5 (16.76 mm)	Recycling	300
Wood packaging	kg	38.5	Incineration	50
PVC packaging	kg	0.1	Landfilling	50
Other plastic packaging (PE, PP)	kg	1.4	Recycling	300
Cardboard packaging	kg	1.5	Recycling	300

Use (B1-7)

The environmental impact of the use phase of this product is primarily related to maintenance in the form of cleaning. No replacement or refurbishment are expected during the RSL of the product. There is no consumption of energy and water when using the product. Maintenance (Module B2) of the declared product involves cleaning of the glass pane and aluminium profiles with tap water with a sponge or cloth. It is assumed that the product is cleaned three times per year with the use of 0.3 ltr water per m². Water usage over the Reference Service Life (RSL) of 30 years is shown in the table below. The amount of wastewater is equal to the water consumption. See below table.

	Unit	Per m ² glass per cleaning	Per m ² glass per year (3 x cleaning)	Per 9 m ² glass per year	Per 9 m ² glass during RSL
Water use	m ³	0.0003	0.0009	0.01	0.243
Waste water	m ³	0.0003	0.0009	0.01	0.243

End of Life (C1, C3, C4)

After manual disassembly, the product parts are separated and transported to waste processing. Most materials are recycled except for acrylate (assumed incinerated) and PVC (assumed landfilled). See table for FG Profile/New York.

Transport to waste processing (C2)

This module includes transport of the discarded product to a waste management sites. Same type of vehicle as in module A4.

Material	FG Profile/New York 12.76 mm	FG Profile/New York 16.76 mm
Aluminum	14.5	15.0
Laminated glass pane	270	360
Chocks/gaskets, PVC	0.47	0.47
Nail plugs, steel	0.12	0.12
Nail plugs, PA	0.02	0.02

Material	Waste handling process	Distance km
Aluminum	Recycling	300
Laminated glass pane	Recycling	300
Chocks/gaskets, PVC	Landfill	50
Nail plugs, steel	Recycling	300
Nail plugs, PA	Incineration	50

Benefits and loads beyond the system boundaries (D)

Material and energy credits associated with the declared product are summarized in the table. Glass crediting includes the 90 % share of primary glass in the declared products. Electricity and heat credits stem from incineration of packaging material in A5 and product components at end-of-life. 10% material losses from sorting of metals before recycling is assumed, and 3.3% material losses from sorting of glass cullets is assumed. Assumed quality ratios between secondary and primary materials are 0.7 for aluminium and 1 for glass and steel.

	Net quantities for recycling (after losses)		Quantities for incineration		Unit	Electricity credits		Heat credits		Unit
	12.76	16.76	12.76	16.76		12.76	16.76	12.76	16.76	
Aluminum	6.7	7.1	0	0	kg	0	0	0	0	kg
Glass w/o laminate	255	342	0	0	kg	0	0	0	0	kg
Steel	0.11	0.11	0	0	kg	0	0	0	0	kg
Packaging materials and product parts	0	0	39.3	39.4	kg	73.1	73.4	232	233	MJ

LCA: Results

The software used for modelling the life cycle and assessment of the environmental impacts is GaBi Professional 2020. For calculation of environmental impacts the LCIA method CML-IA baseline was applied, with certain modification of characterisation factors according to EN 15804.

System boundaries (X=included)

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries
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	X	X	X	X	X	X	X	X	X	X	X	X

Environmental impact

FG Clear 12.76 mm thick glass pane

Parameter	Unit	A1	A2	A3	A4	A5	B2	C2	C3	C4	D
GWP	kg CO ₂ -eqv	5,27E+02	2,27E+01	-4,04E+01	1,68E+01	6,34E+01	2,68E-04	7,00E+00	2,96E+01	2,35E-01	-1,09E+02
GWPf	kg CO ₂ -eqv	5,27E+02	2,23E+01	2,39E+01	1,65E+01	1,58E+00	1,38E-04	6,87E+00	2,68E+01	2,48E-01	-1,09E+02
GWPb	kg CO ₂ -eqv	3,08E-01	2,18E-01	-6,44E+01	1,79E-01	6,19E+01	1,30E-04	7,26E-02	2,77E+00	-1,40E-02	6,39E-02
GWP _{pluc}	kg CO ₂ -eqv	1,58E-01	1,64E-01	5,55E-02	1,35E-01	2,39E-03	1,10E-07	5,62E-02	5,59E-02	4,80E-04	-9,29E-02
ODP	kg CFC11-eqv	1,55E-10	4,33E-15	1,47E-11	3,06E-15	8,11E-08	1,18E-18	1,27E-15	4,02E-07	7,50E-16	-1,87E-13
AP	mole of H ⁺ -eqv	4,25E+00	1,58E-01	1,03E-01	6,01E-02	1,37E-02	3,45E-07	2,51E-02	2,59E-02	1,30E-03	-6,67E-01
EP F	kg P-eqv	4,38E-04	6,24E-05	1,15E-04	5,08E-05	2,50E-06	1,53E-07	2,11E-05	1,75E-04	1,48E-05	-1,48E-04
EP M	kg N-eqv	8,68E-01	5,55E-02	3,90E-02	2,74E-02	3,82E-03	6,70E-07	1,14E-02	1,31E-02	3,25E-04	-1,35E-01
EP T	mole of N-eqv	9,85E+00	6,15E-01	4,22E-01	3,05E-01	5,50E-02	1,04E-06	1,27E-01	1,52E-01	3,57E-03	-1,96E+00
POCP	kg NMVOC-eqv	1,96E+00	1,27E-01	1,24E-01	5,35E-02	1,01E-02	2,65E-07	2,23E-02	2,67E-02	1,00E-03	-3,24E-01
APDm	kg Sb-eqv	3,07E-05	1,66E-06	5,13E-06	1,35E-06	2,43E-08	1,71E-11	5,61E-07	9,98E-06	1,97E-08	-9,64E-06
APDe	MJ	6,07E+03	2,99E+02	3,93E+02	2,22E+02	2,50E+01	1,34E-03	9,26E+01	4,61E+01	3,40E+00	-1,50E+03
WDP	m ³ world-eqv	6,77E+01	2,00E-01	3,07E+00	1,63E-01	6,95E+00	-1,03E-02	6,77E-02	3,70E+00	1,25E-02	-1,80E+01

FG Clear 16.76 mm thick glass pane

Parameter	Unit	A1	A2	A3	A4	A5	B2	C2	C3	C4	D
GWP	kg CO ₂ -eqv	1,22E+03	2,82E+01	-4,04E+01	2,15E+01	6,34E+01	2,66E-04	9,28E+00	3,33E+01	2,70E-01	-1,74E+02
GWPf	kg CO ₂ -eqv	1,22E+03	2,77E+01	2,39E+01	2,11E+01	1,58E+00	1,37E-04	9,11E+00	2,95E+01	2,86E-01	-1,74E+02
GWPb	kg CO ₂ -eqv	2,56E+00	2,75E-01	-6,44E+01	2,29E-01	6,19E+01	1,29E-04	9,66E-02	3,72E+00	-1,73E-02	-5,27E-02
GWP _{pluc}	kg CO ₂ -eqv	8,53E-01	2,08E-01	5,55E-02	1,73E-01	2,39E-03	1,09E-07	7,45E-02	7,49E-02	6,04E-04	-1,31E-01
ODP	kg CFC11-eqv	4,86E-07	5,34E-15	1,47E-11	3,91E-15	8,11E-08	1,17E-18	1,69E-15	4,04E-07	9,02E-16	-2,81E-13
AP	mole of H ⁺ -eqv	1,00E+01	1,78E-01	1,03E-01	7,69E-02	1,37E-02	3,43E-07	3,32E-02	2,99E-02	1,61E-03	-1,05E+00
EPF	kg P-eqv	1,28E-03	7,89E-05	1,15E-04	6,49E-05	2,50E-06	1,52E-07	2,80E-05	1,91E-04	1,32E-05	-1,90E-04
EP M	kg N-eqv	2,19E+00	6,48E-02	3,90E-02	3,50E-02	3,82E-03	6,66E-07	1,51E-02	1,65E-02	4,04E-04	-1,99E-01
EPT	mole of N-eqv	2,43E+01	7,18E-01	4,22E-01	3,91E-01	5,50E-02	1,04E-06	1,69E-01	1,91E-01	4,44E-03	-2,83E+00
POCP	kg NMVOC-eqv	4,83E+00	1,46E-01	1,24E-01	6,84E-02	1,01E-02	2,63E-07	2,95E-02	3,22E-02	1,24E-03	-4,92E-01
APDM	kg Sb-eqv	7,84E-05	2,10E-06	5,13E-06	1,72E-06	2,43E-08	1,70E-11	7,44E-07	1,06E-05	2,33E-08	-1,60E-05
APDE	MJ	1,37E+04	3,72E+02	3,93E+02	2,84E+02	2,50E+01	1,33E-03	1,23E+02	3,88E+01	3,89E+00	-2,36E+03
WDP	m ³ world-eqv	1,36E+02	2,53E-01	3,07E+00	2,08E-01	6,95E+00	-1,02E-02	8,98E-02	4,06E+00	1,73E-02	-2,84E+01

GWP Global warming potential; **GWPf** Global warming potential fossil; **GWPb** Global warming potential biogenic; **GWP_{pluc}** Global warming potential land use change; **ODP** Depletion potential of the stratospheric ozone layer; **AP** Acidification potential of land and water; **EPF** Eutrophication potential fresh water; **EPM** Eutrophication potential marine; **EPT** Eutrophication potential terrestrial; **POCP** Formation potential of tropospheric photochemical oxidants; **ADPM** Abiotic depletion potential for non fossil resources; **ADPE** Abiotic depletion potential for fossil resources; **WDP** Water depletion potential

Additional environmental impacts, as declared in the project report of this EPD, are declared in the two tables below.

FG Clear 12.76 mm thick glass pane

Parameter	Unit	A1	A2	A3	A4	A5	B2	C2	C3	C4	D
PM	Disease incidents	5,11E-05	1,85E-06	1,03E-05	3,44E-07	7,97E-08	3,77E-12	1,43E-07	1,36E-07	1,53E-08	-7,96E-06
IRP ¹	kBq U235 eq.	1,30E+01	7,46E-02	2,78E+00	6,07E-02	2,21E-02	1,81E-05	2,53E-02	-1,15E+00	4,86E-03	-7,93E+00
ETP-fw ²	CTUe	8,28E+03	2,16E+02	1,94E+02	1,66E+02	7,41E+00	2,13E-02	6,93E+01	9,14E+01	2,26E+00	-9,48E+03
HTP-c ²	CTUh	7,50E-06	4,40E-09	1,26E-08	3,44E-09	9,42E-10	7,09E-13	1,43E-09	-1,75E-09	2,15E-10	-3,03E-08
HTP-nc ²	CTUh	5,34E-06	2,53E-07	2,87E-07	2,00E-07	7,92E-08	7,30E-11	8,35E-08	8,62E-08	2,20E-08	-2,22E-06
SQP ²	pt	2,84E+02	9,48E+01	1,34E+04	7,81E+01	1,39E+00	6,94E-04	3,25E+01	2,96E+01	4,80E-01	-3,51E+02

FG Clear 16.76 mm thick glass pane

Parameter	Unit	A1	A2	A3	A4	A5	B2	C2	C3	C4	D
PM	Disease incidents	1,18E-04	1,99E-06	1,03E-05	4,40E-07	7,97E-08	3,77E-12	1,90E-07	1,22E-07	1,91E-08	-1,23E-05
IRP ¹	kBq U235 eq.	2,00E+01	9,43E-02	2,78E+00	7,76E-02	2,21E-02	1,80E-05	3,35E-02	-1,58E+00	5,38E-03	-1,57E+01
ETP-fw ²	CTUe	9,78E+03	2,70E+02	1,94E+02	2,13E+02	7,42E+00	2,13E-02	9,19E+01	1,08E+02	2,48E+00	-1,29E+04
HTP-c ²	CTUh	1,50E-05	5,53E-09	1,26E-08	4,40E-09	9,42E-10	7,05E-13	1,90E-09	-2,72E-09	2,61E-10	-5,79E-08
HTP-nc ²	CTUh	1,06E-05	3,18E-07	2,87E-07	2,56E-07	7,92E-08	7,26E-11	1,11E-07	1,01E-07	2,71E-08	-3,32E-06
SQP ²	pt	1,41E+04	1,20E+02	1,34E+04	9,98E+01	1,39E+00	6,90E-04	3,72E+01	3,83E+01	5,96E-01	-3,95E+02

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)

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 indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

Resource use

FG Clear 12.76 mm thick glass pane

Parameter	Unit	A1	A2	A3	A4	A5	B2	C2	C3	C4	D
RPEE	MJ	3,70E+02	1,57E+01	8,64E+02	1,29E+01	8,27E-01	4,06E-04	5,36E+00	-1,52E+01	3,44E-01	-4,12E+02
RPEM	MJ	0,00E+00	0,00E+00	5,84E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
TPE	MJ	3,70E+02	1,57E+01	1,45E+03	1,29E+01	8,27E-01	4,06E-04	5,36E+00	-1,52E+01	3,44E-01	-4,12E+02
NRPE	MJ	6,07E+03	3,00E+02	3,94E+02	2,23E+02	2,50E+01	1,34E-03	9,30E+01	4,60E+01	3,40E+00	-1,50E+03
NRPM	MJ	2,00E+00	0,00E+00	8,12E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
TRPE	MJ	6,15E+03	3,00E+02	3,94E+02	2,23E+02	2,50E+01	1,34E-03	9,30E+01	4,60E+01	3,40E+00	-1,50E+03
SM	kg	2,60E+01	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
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	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	0,00E+00	0,00E+00
FW	m³	1,75E+00	1,84E-02	1,31E-01	1,50E-02	1,62E-01	1,41E-06	6,24E-03	6,37E-02	4,57E-04	-1,01E+00

FG Clear 16.76 mm thick glass pane

Parameter	Unit	A1	A2	A3	A4	A5	B2	C2	C3	C4	D
RPEE	MJ	1,23E+03	1,99E+01	9,22E+01	1,64E+01	8,28E-01	4,03E-04	7,10E+00	-2,09E+01	4,14E-01	-6,87E+02
RPEM	MJ	0,00E+00	0,00E+00	5,91E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
TPE	MJ	1,23E+03	1,99E+01	6,83E+02	1,64E+01	8,28E-01	4,03E-04	7,10E+00	-2,09E+01	4,14E-01	-6,87E+02
NRPE	MJ	7,75E+03	3,73E+02	7,67E+01	2,86E+02	2,50E+01	1,33E-03	1,23E+02	3,87E+01	3,89E+00	-2,36E+03
NRPM	MJ	2,00E+00	0,00E+00	7,88E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
TRPE	MJ	7,75E+03	3,73E+02	1,56E+02	2,86E+02	2,50E+01	1,33E-03	1,23E+02	3,87E+01	3,89E+00	-2,36E+03
SM	kg	3,60E+01	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
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,62E-01	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	0,00E+00	0,00E+00
FW	m³	2,06E+00	2,33E-02	4,13E-02	1,92E-02	1,62E-01	1,40E-06	8,28E-03	6,44E-02	6,04E-04	-1,77E+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** 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; **FW** Use of net fresh water

End of life - Waste

FG Clear 12.76 mm thick glass pane

Parameter	Unit	A1	A2	A3	A4	A5	B2	C2	C3	C4	D
HW	kg	5,86E+01	1,25E-05	9,74E-08	1,03E-05	1,83E-07	2,59E-12	4,30E-06	4,50E-06	3,29E-08	-4,22E-06
NHW	kg	5,90E+01	4,40E-02	2,00E-01	3,54E-02	1,00E-01	2,35E-04	1,47E-02	2,56E-01	1,05E+01	-1,62E+01
RW	kg	9,74E-02	5,05E-04	3,32E-03	4,12E-04	1,32E-03	1,15E-07	1,71E-04	-2,11E-03	3,97E-05	-4,19E-02

FG Clear 16.76 mm thick glass pane

Parameter	Unit	A1	A2	A3	A4	A5	B2	C2	C3	C4	D
HW	kg	1,51E-05	1,59E-05	9,74E-08	1,32E-05	1,83E-07	2,57E-12	5,70E-06	6,04E-06	4,16E-08	-5,82E-06
NHW	kg	6,88E+01	5,56E-02	2,00E-01	4,53E-02	1,00E-01	2,34E-04	1,95E-02	3,43E-01	1,34E+01	-3,10E+01
RW	kg	1,23E-01	6,39E-04	3,32E-03	5,26E-04	1,32E-03	1,15E-07	2,27E-04	-4,38E-03	4,52E-05	-8,01E-02

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

End of life - Output flow

FG Clear 12.76 mm thick glass pane

Parameter	Unit	A1	A2	A3	A4	A5	B2	C2	C3	C4	D
MFR	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,34E+00	0,00E+00	0,00E+00	2,62E+02	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,86E+01	0,00E+00	0,00E+00	2,20E-01	0,00E+00	0,00E+00

FG Clear 16.76 mm thick glass pane

Parameter	Unit	A1	A2	A3	A4	A5	B2	C2	C3	C4	D
MFR	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,36E+00	0,00E+00	0,00E+00	3,50E+02	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,86E+01	0,00E+00	0,00E+00	3,10E-01	0,00E+00	0,00E+00

MFR Materials for recycling; **MER** materials for energy recovery

Biogenic carbon content

FG Clear 12.76 and 16.76 mm thick glass pane

Parameter	Unit	FG Clear 12.76 mm (at the factory gate)	FG Clear 16.76 mm (at the factory gate)
Biogenic carbon content in product	kg C	0,14	0,04
Biogenic carbon content in accompanying packaging	kg C	17,8	17,1

Reading example: 9,0 E-03 = 9,0*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).

Data source	Amount	Unit
GaBi Professional 2020 database (DK mix, reference year 2016)	0.286	kg CO ₂ -eqv/kWh

Dangerous substances

- The product contains no substances given by the REACH Candidate list or the Norwegian priority list
- The product contains substances given by the REACH Candidate list or the Norwegian priority list that are less than 0,1 % by weight.
- The product contain dangerous substances, more then 0,1% by weight, given by the REACH Candidate List or the Norwegian Priority list, see table.
- The product contains no substances given by the REACH Candidate list or the Norwegian priority list. The product is classified as hazardous waste (Avfallsforkiften, Annex III), see table.

Name	CAS no.	Amount

Indoor environment

The product meets the requirements for low emissions (M1) according to EN15251: 2007 Appendix E.





The products have a EuroFins Indoor Air Comfort Gold certification, which ensures that the product fulfills requirements on low degassing during use. The test results and indoor climate certificate can be received by contacting the manufacturer.

Carbon footprint

Carbon footprint has not been worked out for the product.

Bibliography

ISO 14025:2010	<i>Environmental labels and declarations - Type III environmental declarations - Principles and procedures</i>
ISO 14044:2006	<i>Environmental management - Life cycle assessment - Requirements and guidelines</i>
EN 15804:2012+A2:2019	<i>Sustainability of construction works - Environmental product declaration - Core rules for the product category of construction products</i>
ISO 21930:2007	<i>Sustainability in building construction - Environmental declaration of building products</i>
LCI/LCA report	<i>Background report for DEKO glass partitions. Report number: LCA-report A-113243</i>
PCR, Institut Bauen und Umwelt, 2019	<i>Product Category Rules for Building-Related Products and Services; Part A: Calculation rules for the LCA and Requirements on the project report Part B: Requirements on the EPD for Room partition systems</i>

	Program operator <Name> <xxxxxx> <xxxxxx>	Phone: <xxxx> <xxxx> e-mail: <xxxx> web: <xxxx>
	Publisher The Norwegian EPD Foundation Post Box 5250 Majorstuen, 0303 Oslo Norway	Phone: +47 23 08 82 92 e-mail: post@epd-norge.no web: www.epd-norge.no
	Owner of the declaration DEKO p/s Mårkærvej 11, 2630 Tåstrup Denmark	Phone: +45 43 55 77 22 e-mail: info@deko.dk web: www.deko.com
	Author of the Life Cycle Assessment Trine Henriksen and Trine Lund Neidel COWI Denmark Parallevej 2, 2800 Kongens Lyngby	Phone: +45 56 40 00 00 e-mail: tlha@cowi.com web: www.cowi.com