

# **Environmental Product Declaration**

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

<b>Product</b> Fully reversible, outward-opening top swing window	<b>From</b> H-Fönstret i Lysekil AB Gåseberg 420, 453 91 Lysekil					
Product family name	Publication date	2022-06-29				
HALF	Revision date	-				
Product models included in EPD HAKF303, HAKF313, HAKF300, HALF300	Valid until	2027-06-29				

Programme

The International EPD® System, www.environdec.com

**Programme operator** EPD International AB

#### **EPD registration number** S-P-06295



An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to continued registration and publication at <u>www.environdec.com</u>



### **Programme information**

Programme:	The International EPD <sup>®</sup> System						
	EPD International AB						
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CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product category rules (PCR): PCR 2019:14 Construction products, version 1.11 c-PCR-007 Windows and doors, version 2020-04-09

PCR review was conducted by: The Technical Committee of the International EPD<sup>®</sup>System. See <u>www.environdec.com/TC</u> for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat <u>www.environdec.com/contact</u>

Independent third-party verification of the declaration and data, according to ISO 14025:2006: □ EPD process certification ⊠ EPD verification

Third party verifier: Daniel Böckin, under guidance of Marcus Wendin, Miljögiraff AB. Approved by: The International EPD<sup>®</sup> System

Procedure for follow-up of data during EPD validity involves third party verifier:

🗆 Yes 🛛 🖾 No

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. The EPD owner has the sole ownership, liability and responsibility of the EPD.



## **Company information**

# Owner of the EPD and name/location of production site

H-Fönstret i Lysekil AB Gåseberg 420 453 91 Lysekil Sweden

#### Contact:

Danne Carlsson Email: <u>dc@hfonstret.se</u> or <u>info@hfonstret.se</u> Phone: 0523-652121 or 0523-665450

#### Product-related or management systemrelated certifications P-marked production, Miljödiplom Svensk Miljöbas, Byggvarubedömningen, SundaHus

#### Description of the organisation

H-Fönstret i Lysekil AB is part of family owned K-Svets Förvaltnings AB with, amongst others, our sister company LEIAB. In Lysekil, on the west coast of Sweden, H-Fönstret employs roughly 90 people and has manufactured aluminium windows with internal wooden cladding since 1978.





### Product information

#### Fully reversible, outward-opening top swing window

A triple pane insulated glazing unit (IGU) mounted in an aluminium window with internal wooden cladding.

The window is intended to be installed in the facade of buildings, insulating against the heat or cold of the outside while letting in plenty of light, thanks to slender window profiles which maximizes the glass surface.

The window is opened by turning a handle on the lower part of the sash. By lifting the safety latch it can be swung around 180° on the outside of the facade enabling cleaning of the exterior glass surface from the inside.

The essential characteristics are declared in the declaration of performance HF-CEDoP-102 available on <a href="https://www.hfonstret.se">www.hfonstret.se</a>

**UN CPC code:** 42120 - Doors, windows and their frames and thresholds for doors, of iron, steel or aluminium.

Figure 1. System diagram.





## LCA information

Declared unit	The declared unit used in this report is 1 m <sup>2</sup> . HAKF303 weighs Calculations are based on a standard size element of 1,23 x 1.	s 37.7 kg/m². ,48 m.								
Expected service life	The expected service life is 60 years.									
Geographical area	Northern Europe									
Time representativeness	All site specific data was collected from the year 2020.									
Database(s) and LCA	Ecoinvent 3.7 and openLCA 1.10.3									
software used										
Goal	To gain insight into the environmental impact of the products	s and to communicate	e the results through this EPD.							
	These insights will be used to guide internal choices in product sustainable production and products.	sustainable production and products.								
System boundaries	Cradle to grave and module D (A + B + C + D)									
LCA report	Report no. P112553:rev2 – LCA practitioner Peter Ylmén, RISE									
Assumptions	The packaging materials were averaged for units produced.									
	The waste was averaged for the waste category each compor	nent or material is ass	signed to.							
	No IGU change is needed during the product s reference serv	Cut off critoria	las, 2009). Quantified contribution from							
Cut-off rules	Frocess excluded from study	Cut-on chiena	process							
	Rubber production and waste management	Weight	< 1 %							
	Plastic production and waste management	Weight	<1%							
	Low density polyethylene (LDPE) production and waste	weight	< 1 %							
	Silicone production and waste management	Weight	< 1 %							
	Energy for mounting of the window in the building	Energy use	< 1 %							
Data quality	Data quality follows the requirements in EN 15804:2012+A2:	2019 and PCR 2019:1	4 version 1.11.							
Allocation	The allocation made in the calculations has been made based	on mass for materia	Is and produced number of units							
	for the investigated product compared to the total yearly pro	240 km	se in the window factory.							
Scenarios	A5: The window will be installed manually. The only tool used	d is an electric power	tool for fastening the window							
	frame to the wall element. The power consumption of the po	wer tool is very smal	l and therefore negligible to the							
	calculation results. Applied scenario for the packaging waste	is according to scena	rio in module C3.							
	<b>B1:</b> No emissions are released from the product to the enviro	onment during the us	e stage since it is a passive							
	<b>B2:</b> The window is assumed to be under normal use. To ensur	re the function of the	product during its entire service							
	life requires annual greasing of hinges and other moving part	s. 10 ml of silicone sp	aray is used. The window is							
	designed to be cleaned from the inside. No crane, ladder, pla	tform etc. are needed	d. It is assumed 1 litre of water							
	and 10 ml of soap will be used for general cleaning of the win	dow and its compone	ents. Additionally, 15 ml of							
	annually.	equired. This cleaning	g process will be performed							
	B3: No repairs will be needed if maintenance and cleaning is	performed according	to instructions.							
	B4: The main weatherseal (Q-lon 3099) has been shown to re	tain its properties an	d performance after 10 000							
	cycles of opening and closing of windows and doors (EN 1191	.), as well as being cla	iss 6 (Recovery after aging)							
	function, which correspond to 2 replacements. The replacem	ent seal is sent from	H-Fönstret to a place of delivery							
	in a package for the transport. According to EPD for fittings [6	5], the expected servi	ce life for fittings are 30 years							
	and will be replaced one time in the calculations. Applied sce	nario for the waste is	according to scenario in module							
	C3. <b>B5</b> : No refurbichment will be needed if maintenance and clea	ning is performed ac	cording to instructions							
	<b>B6:</b> No energy is needed for the operation of the product.	ining is performed ac								
	B7: No water is needed for the operation of the product.									
	<b>C1:</b> The window is assumed to be manually demounted from	the building. Any ene	ergy used for power tools is							
	considered negligible and therefore disregarded.	anagement facility								
	<b>C3:</b> The window is shredded and the resulting materials sorte	d. 95% of non-glass a	and 30% of glass are recycled or							
	incinerated, the rest will be transported and landfilled.	-								
	Of the recycled or incinerated materials, 100% of metals and	glass are recycled wh	ile 100% of plastics and wood are							
	Incinerated at 90% incineration rate. C4: 70% of glass and 5% of non-glass material is transported t	to and disposed of in	the nearest landfill							
	e , e , e , e , g a s a na e , e , non g a s materiar is transported t									



Table 1. Overview of included life cycle stages and modules declared. X for modules included in the analysis, MND for m	nodules not
declared but relevant and MNR for modules not relevant.	

	Pro	oduct sta	age	Constr proces	uction s stage			U	se stag	ge			End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	х	х	х	х	х	MNR	х	х	х	х	MNR	MNR	х	х	х	х	х
Geography	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
Specific data used			7%			-	-	-	-	-	-	-	-	-	-	-	-
Variation – products			<10%			-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites			NR			-	-	-	-	-	-	-	-	-	-	-	-



## **Content information**

A window from H-Fönstret is made from aluminium, wood, glass, steel and plastics.

The aluminium profiles (EN AW 6060F22) are supplied by Profilgruppen Extrusions AB in Åseda and Hydro Extrusion Sweden AB in Vetlanda.

The wood used is pine from PEFC- and FSC-certified suppliers. It is planed, cut, processed and painted with a water-based paint by Ejdern Component AB in Södra Vi. The window blanks are sent to H-Fönstret ready to be assembled into frame/sash cladding.

Sheets of flat glass are cut to size and assembled into insulating glazing units by Press Glass SA in Poland. The other materials in the IGU assembly (argon gas, plastic warm edge spacer bar etc) are not considered in this document since the EPD for the IGU (M-EPD-MIG-GB-002036) reached the conclusion that the effects are negligible for the calculation of environmental impacts.

Hinges, various other fittings as well as some fasteners are made by different steels and are supplied by different manufacturers and suppliers.

Gaskets, weather strips, diffusion-tight tape, sealant and some details such as the end keeps for the closing function are made of plastics, rubbers or silicone. H-Fönstret has various suppliers and manufacturers for these materials in Sweden and elsewhere in Europe.

The finished product is fixed to a pallet made from fir which is covered with a plastic sheet and wrapped in stretch film.

Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%				
Float glass	23.3	0	0				
Wood, pine	6.2	0	100				
Aluminium	5.7	0	0				
Steel alloy	2.2	0	0				
Paint	0.3	0	0				
Plastic (polyester, nylon)	0.3	0	0				
Rubber (EPDM, TPE)	0.2	0	0				
Low density polyethylene (LDPE)	<0.1	<1	0				
Silicone	<0.1	0	0				
TOTAL	37.7	<1	16				
Packaging materials	Weight, kg	Weight-% (versu	s the product)				
Wood, pine	1.2	1.7	,				
Low density polyethylene (LDPE)	<0.1	<0.1					
Steel alloy	<0.1	<0.1					
TOTAL	1.2	1.7	,				

Table 2. Material used for one declared unit of the product.

The product does not contain any substances in the Candidate List of Substances of Very High Concern (SVHC).



## Environmental performance

Table 3. Results for the potential environmental impact (mid-point) per declared unit. 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; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption; PM = Potential incidence of disease due to particular 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 = Land use related impacts/Soil quality.

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	A5	B1	B2	B3
GWP IPCC	kg CO <sub>2</sub> eq.	1.10E+02	3.86E+00	1.26E-02	1.13E+02	1.46E+00	0.00E+00	0.00E+00	7.39E+00	0.00E+00
GWP-fossil	kg CO <sub>2</sub> eq.	1.11E+02	3.89E+00	1.23E-02	1.14E+02	1.47E+00	0.00E+00	0.00E+00	6.93E+00	0.00E+00
GWP-biogenic	kg CO₂ eq.	-2.09E+01	9.22E-03	1.99E-01	-2.07E+01	3.50E-03	0.00E+00	0.00E+00	-1.21E+00	0.00E+00
GWP-luluc	kg CO₂ eq.	1.15E+00	1.33E-03	3.98E-06	1.16E+00	4.97E-04	0.00E+00	0.00E+00	6.16E-01	0.00E+00
GWP-total	kg CO₂ eq.	9.07E+01	3.90E+00	2.11E-01	9.49E+01	1.47E+00	0.00E+00	0.00E+00	6.34E+00	0.00E+00
ODP	kg CFC 11 eq.	9.70E-06	8.91E-07	2.98E-09	1.06E-05	3.36E-07	0.00E+00	0.00E+00	4.70E-06	0.00E+00
AP	mol H⁺ eq.	9.68E-01	1.64E-02	9.45E-05	9.85E-01	5.93E-03	0.00E+00	0.00E+00	4.53E-02	0.00E+00
EP-freshwater	kg P⁻ eq.	3.45E-02	2.70E-04	1.62E-06	3.48E-02	1.02E-04	0.00E+00	0.00E+00	1.93E-03	0.00E+00
EP-freshwater	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	1.06E-01	8.27E-04	4.97E-06	1.07E-01	3.13E-04	0.00E+00	0.00E+00	5.93E-03	0.00E+00
EP-marine	kg N eq.	1.39E-01	4.97E-03	4.05E-05	1.44E-01	1.81E-03	0.00E+00	0.00E+00	1.62E-02	0.00E+00
EP-terrestrial	mol N eq.	1.49E+00	5.43E-02	4.13E-04	1.55E+00	1.97E-02	0.00E+00	0.00E+00	1.11E-01	0.00E+00
РОСР	kg NMVOC eq.	4.41E-01	1.69E-02	1.16E-04	4.58E-01	6.19E-03	0.00E+00	0.00E+00	3.17E-02	0.00E+00
ADP- inerals&metals**	kg Sb eq.	6.02E-04	6.32E-06	2.15E-08	6.08E-04	2.39E-06	0.00E+00	0.00E+00	4.65E-05	0.00E+00
ADP-fossil**	MJ	1.23E+03	5.95E+01	2.04E-01	1.29E+03	2.25E+01	0.00E+00	0.00E+00	1.00E+02	0.00E+00
WDP**	m <sup>3</sup>	3.70E+03	4.32E+01	2.07E-01	3.74E+03	1.63E+01	0.00E+00	0.00E+00	3.52E+02	0.00E+00
PM	disease inc.	1.16E-05	2.98E-07	1.36E-09	1.19E-05	1.13E-07	0.00E+00	0.00E+00	5.11E-07	0.00E+00
IRP*	kBq U <sub>235</sub> eq.	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
ETP-fw**	CTUe	2.94E+03	4.39E+01	1.56E+01	3.00E+03	1.66E+01	0.00E+00	0.00E+00	1.35E+03	0.00E+00
HTP-c**	CTUh	5.16E-07	1.60E-09	4.59E-11	5.17E-07	6.02E-10	0.00E+00	0.00E+00	7.56E-09	0.00E+00
HTP-nc**	CTUh	3.66E-06	4.74E-08	2.75E-10	3.71E-06	1.79E-08	0.00E+00	0.00E+00	1.58E-07	0.00E+00
SQP**	-	1.78E+03	4.70E+01	1.97E-01	1.83E+03	1.78E+01	0.00E+00	0.00E+00	5.19E+01	0.00E+00



Indicator	Unit	B4	B5	B6	B7	C1	C2	СЗ	C4	D
GWP IPCC	kg CO <sub>2</sub> eq.	1.06E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.98E-01	1.25E-02	8.45E-01	-2.80E+01
GWP-fossil	kg CO <sub>2</sub> eq.	1.06E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E-01	1.21E-02	8.27E-01	-2.85E+01
GWP-biogenic	kg CO <sub>2</sub> eq.	5.39E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.16E-04	2.91E-03	9.46E+00	-2.62E+00
GWP-luluc	kg CO₂ eq.	6.16E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-04	4.63E-04	1.59E-04	-3.34E-01
GWP-total	kg CO <sub>2</sub> eq.	1.12E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.01E-01	1.55E-02	1.03E+01	-3.15E+01
ODP	kg CFC 11 eq.	8.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.88E-08	1.93E-09	1.41E-07	-2.46E-06
AP	mol H⁺ eq.	7.99E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-03	1.04E-04	4.04E-03	-2.85E-01
EP-freshwater	kg P⁻ eq.	7.22E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.09E-05	1.36E-06	9.54E-05	-9.33E-03
EP-freshwater	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	2.22E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.40E-05	4.17E-06	2.93E-04	-2.86E-02
EP-marine	kg N eq.	1.58E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.70E-04	4.56E-05	1.63E-03	-3.69E-02
EP-terrestrial	mol N eq.	1.56E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.04E-03	4.86E-04	1.64E-02	-4.14E-01
РОСР	kg NMVOC eq.	4.46E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-03	1.29E-04	4.46E-03	-1.24E-01
ADP- minerals&metals**	kg Sb eq.	1.20E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.90E-07	5.43E-10	1.63E-06	-1.39E-04
ADP-fossil**	MJ	1.40E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.60E+00	9.11E-01	8.22E+00	-2.73E+02
WDP**	m <sup>3</sup>	8.68E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.34E+00	9.83E+00	1.20E+01	-6.74E+02
PM	disease inc.	7.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.31E-08	2.61E-09	4.27E-08	-3.59E-06
IRP*	kBq U <sub>235</sub> eq.	0.00E+00								
ETP-fw**	CTUe	3.52E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.39E+00	2.53E-01	1.90E+02	-9.46E+02
HTP-c**	CTUh	7.45E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-10	2.54E-12	2.16E-09	-2.13E-07
HTP-nc**	CTUh	7.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.67E-09	9.96E-11	1.28E-08	-1.41E-06
SQP**	-	3.37E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.64E+00	1.75E-01	5.56E+00	-2.27E+02

\* 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 \*\* 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.



Table 4. Use of resources per declared unit. 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 = Use of net fresh water

Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	A5	B1	B2	B3
PERE	MJ	6.19E+02	0.00E+00	0.00E+00	6.19E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERM	MJ	1.12E+02	0.00E+00	0.00E+00	1.12E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	7.31E+02	8.08E-01	4.66E-03	7.32E+02	3.06E-01	0.00E+00	0.00E+00	3.04E+01	0.00E+00
PENRE	MJ	1.21E+03	0.00E+00	0.00E+00	1.21E+03	0.00E+00	0.00E+00	0.00E+00	8.68E+01	0.00E+00
PENRM	MJ.	1.28E+01	0.00E+00	0.00E+00	1.28E+01	0.00E+00	0.00E+00	0.00E+00	1.45E+01	0.00E+00
PENRT	MJ	1.23E+03	5.95E+01	2.04E-01	1.29E+03	2.25E+01	0.00E+00	0.00E+00	1.01E+02	0.00E+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	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
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
FW	m3	1.94E+02	2.37E+00	1.62E-02	1.96E+02	8.97E-01	0.00E+00	0.00E+00	1.19E+01	0.00E+00
Indicator	Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	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
PERM	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
PERT	MJ	3.79E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.26E-02	3.69E-01	2.05E-01	-2.20E+02
PENRE	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
PENRM	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
PENRT	MJ	1.40E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.60E+00	9.10E-01	8.22E+00	-2.73E+02
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	-1.80E+02
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
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	-1.80E+02
FW	m3	3.43E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-01	2.23E+00	6.19E-01	-2.29E+01



Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	A5	B1	B2	B3
Hazardous waste disposed	kg	0	0	0	0	0	0	0	0	0
Non-hazardous waste disposed	kg	0	0	0	0	0	0	0	0	0
Radioactive waste disposed	kg	0	0	0	0	0	0	0	0	0
Indicator	Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	0	0	0	0	0	0	0	0	0
Non-hazardous waste disposed	kg	0	0	0	0	0	0	0	0	0
Radioactive waste disposed	kg	0	0	0	0	0	0	0	0	0

Table5. Disposed waste per declared unit. The waste is processed within the system boundary and therefore the values are zero.

Table 6. Output flows for the declared unit.

Indicator	Unit	A1	A2	A3	Tot. A1- A3	A4	A5	B1	B2	B3
Components for re- use	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	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	6.89 E-01	6.89 E-01	0.00E+00	1.28E-02	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	1.32E+00	1.32E+00	0.00E+00	6.38 E-01	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	MJ	0.00E+00	0.00E+00	4.63E+01	4.63E+01	0.00E+00	1.01E+01	0.00E+00	0.00E+00	0.00E+00
Indicator	Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re- use	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	0.00E+00
Material for recycling	kg	2.11E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E+01	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.13E+00	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E+02	0.00E+00

Table 7. Information on biogenic carbon content.

Туре	Unit	Value
Biogenic carbon content in product	kg C	2.77
Biogenic carbon content in packaging	kg C	0.54
Note: 1 kg biogenic carbon is equivalent to $44/12$ kg CO <sub>2</sub>		



## Additional information

For installation and maintenance instructions please visit <u>www.hfonstret.se</u>.

#### Differences versus previous versions

#### **References**

General Programme Instructions of the International EPD<sup>®</sup> System. Version 4.0.

PCR 2019:14, Construction products, version 1.11.

C-PCR-007, Windows and doors, version 2020-04-09.

EN 15804:2012+A2:2019, Sustainability of construction works – Environmental Product Declarations – Core rules for the product category of construction products.

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EN ISO 14025:2010, Environmental labels and declarations – Principles and procedures.

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

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