# **ENVIRONMENTAL PRODUCT DECLARATION**

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	VELUX Group
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-VEL-20230507-CBA1-EN
Issue date	11.03.2024
Valid to	10.03.2029

# VELUX lining LSB VELUX A/S



www.ibu-epd.com | https://epd-online.com







# **General Information**

VELUX A/S	VELUX lining LSB
Programme holder	Owner of the declaration
IBU – Institut Bauen und Umwelt e.V.	VELUX Group
Hegelplatz 1	Ådalsvej 99
10117 Berlin	2970 Hørsholm Denmark
Germany	Denmark
Declaration number	Declared product / declared unit
EPD-VEL-20230507-CBA1-EN	1m <sup>2</sup> lining LSB.
	The declared unit is based on the configuration of a standard size window measuring 0.78 m x 1.178 m. The product LSB is manufactured in Germany.
	(The declared representative product of the product group comprise the product with the highest mass.)
This declaration is based on the product category rules:	Scope:
Windows and doors , 01.08.2021 (PCR checked and approved by the SVR)	Productline LSB - lining; manufactured by VELUX in Germany for sale in Europe.
	Declaration according to ISO 14025 and EN 15804 describing specific
Issue date	environmental performance of the construction product.
11.03.2024	The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.
Valid to	The EPD was created according to the specifications of EN 15804+A2. In
10.03.2029	the following, the standard will be simplified as <i>EN 15804</i> .
	Verification
	The standard EN 15804 serves as the core PCR
	Independent verification of the declaration and data according to ISO 14025:2011
	internally X externally
Mr. Al.	
Man Peter	
DiplIng. Hans Peters	
(Chairman of Institut Bauen und Umwelt e.V.)	

Florian Pronold (Managing Director Institut Bauen und Umwelt e.V.) Dr.-Ing. Nikolay Minkov, (Independent verifier)

# Product

## Product description/Product definition

VELUX linings ensure an easy and quick connection of the roof window to the interior ceiling finish. They and their facings are assembled before being clicked into the window rebate in one piece from the inside and there is no need for further framing.

The linings are made in white PVC, need no finishing treatment and are not sensitive to moisture. The white, semi-gloss surface and the white facings supplied ensure a harmonious connection from the roof window to most walls.

The linings are available in all window sizes and generations sold after 1991.

Installation angle: Linings can be installed in roof pitches from  $15^{\circ}$  to  $90^{\circ}$ .

For the placing on the market of the product in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) Regulation (EU) No. 305/2011 (CPR) applies. The product needs a declaration of performance taking into consideration *EN 13245-2:2008*, Plastics - Unplasticized poly(vinyl chloride) (PVC-U) profiles for building applications - Part 2: PVC-U profiles and PVC-UE profiles for internal and external wall and ceiling finishes and the CE-marking.

For the application and use the respective national provisions apply.

### Application

Standard linings tobe used in roofs with a roof thickness of min 170 mm to max 530 mm.

# LCA: Calculation rules

### **Declared Unit**

The declared unit is one m<sup>2</sup> related to a reference window, that the lining is installed in connection with.

The declared unit is based on the representative product measuring 0.78m x 1.178m.

### Declared unit and mass reference

Name	Value	Unit
Declared unit	1	m <sup>2</sup>
Grammage	12.56	kg/m <sup>2</sup>
Layer thickness	0	m
Weight per area	11.56	kg/representative product
Weight per area	12.56	kg/declared unit

The calculation is based mainly on BOM (Bill of Material) data, with only a few specific

information on processing. This may lead to a higher uncertainty for the result values and needs to be kept in mind for the application of this EPD.

## System boundary

Type of EPD: Cradle to gate - with options. The following life cycle stages were considered:

Production stage A1-A3: Consideration of the production of raw materials (plastic profile

### **Technical Data**

The Declaration of Performance including relevant technical specifications and test methods/test standards can be downloaded from the website <a href="http://www.velux.com/ce-marking">www.velux.com/ce-marking</a>.

### Constructional data

Name	Value	Unit
Reaction to fire	E	class
Durability	No performance determined	

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to *EN 13245-2:2008*, Plastics - Unplasticized poly(vinyl chloride) (PVC-U) profiles for building applications - Part 2: PVC-U profiles and PVC-UE profiles for internal and external wall and ceiling finishes.

### **Base materials/Ancillary materials**

Name	Value	Unit
Plastics	97.7	%
Steel	2.3	%

# REACH

This product contains substances listed in the *candidate list* (date: 09.08.2023) exceeding 0.1 percentage by mass: no.

### **Reference service life**

A calculation of the reference service life according to *ISO 15686* is not possible.

The Bundesinstitut für Bau, Stadt und Raumforschung/Federal office for building and regional planning (*BBSR*) table declares a service life for the complete roof window dependent on the applied window frame material between 25 and  $\geq$  50 years. This includes linings as declared with this EPD.

and steel) and their processing (estimated energy data: electrical energy from the national residual mix and thermal energy from natural gas); transport of major materials to the manufacturing site; assembly of semi-finished products to the final product; packaging material (including waste paper input for paper and cardboard).

End-of-Life stage C1, C2, C3:

C1: a manual demolition is assumed, resulting in indicator value "0".

C2: For the transport to EoL by truck a distance of 50 km is assumed.

C3: A scenario for the incineration of plastic in a waste incineration plant (WIP) is assumed; metals are assumed to be recycled.

The EoL-Scenario does not assume waste to be disposed of on a landfill site. Module C4 is declared as"0".

Benefits for the next product system D:

Resulting electrical and thermal energy from the WIP, avoiding the generation of electricity and heat via fossil fuels, is considered.

The amount of metals after the reduction due to the net-flow calculations is sent to a recycling process. The effort for recycling, as well as the benefit for the regained metals are declared in module D.



Contribution of waste flows is considered in the modules where they occur.

# **Geographic Representativeness**

Land or region, in which the declared product system is manufactured, used or handled at the end of the product's lifespan: Europe

# LCA: Scenarios and additional technical information

## Characteristic product properties of biogenic carbon

The following declared values refer to the declared unit of 1 m<sup>2</sup>.

# Information on describing the biogenic carbon content at factory gate

The declared biogenic content comprises the paper manual and the packaging material consisting of cardboard, paper, PE, EPS and wood. As module A5 is not declared, the information on packaging supports further EoL calculations.

Name	Value	Unit
Biogenic carbon content in product	-	kg C
Biogenic carbon content in accompanying packaging	0.8	kg C

The value refers to the following packaging material (per 1m<sup>2</sup>): Paper (manual): 0.08 kg, Cardboard packaging: 1.429 kg, Paper insert: 0.004 kg,

PE-LD: 0.057 kg, EPS: 0.166 kg, wood: 0.217 kg.

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO<sub>2</sub>.

## Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account. The software *LCA FE 10.7* is used accompanied by the *MLC* database (version 2023.1, 2023).

### **Reference service life**

Name	Value	Unit
Life Span (according to BBSR)	25 - 50	а

### End of life (C1-C4)

Name	Value	Unit
Collected separately waste type	12.56	kg
Recycling	0.29	kg
Energy recovery	12.27	kg

# Reuse, recovery and/or recycling potentials (D), relevant scenario information

Name	Value	Unit
Steel (net-flow-calculation)	0.20	kg/1m <sup>2</sup> product
Stainless steel (net-flow-calculation)	0.07	kg/1m <sup>2</sup> product



# LCA: Results

The LCIA assessment is performed applying the characterisation factors "EN 15804+A2, EF 3.0". DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR

= MOD	ULE NC	OT REL	EVANT	)												, i i i i i i i i i i i i i i i i i i i	
Pro	oduct sta	age	proces	ruction s stage			U	lse si	tage			E	nd of li	e	Benefits and loads beyond the system boundaries		
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	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	-	B6	B7	C1	C2	C3	C4	D	
X	X	Х	MND	MND	MND	MND	MNR	MN	R   MNR	MND	MND	) X	Х	Х	X	X	
RESUL	TS OF	THE LC	CA - EN	VIRONI	IENTA	L IMPA	СТ ассо	ordin	ig to EN	5804+/	<b>\2: 1 n</b>	ո² lining L					
Param	eter						Uni	t	A1-A3	C	1	C2	0	3	C4	D	
Global W	arming Po	otential to	tal (GWP-	total)			kg CO <sub>2</sub>		4.24E+01		)	4.84E-02	2.48	E+01	0	-8.1E+00	
Global W	arming Po	otential fo	ssil fuels (	GWP-foss	sil)		kg CO <sub>2</sub>		4.23E+01		)	4.6E-02	2.48	E+01	0	-8.06E+00	
	-		ogenic (G		nic)		kg CO <sub>2</sub>		8.02E-02		)	2.01E-03	_	E-03	0	-3.95E-02	
	•		luc (GWP-	,			kg CO <sub>2</sub>		3.54E-02		)	4.19E-04		E-03	0	-1.52E-03	
			atospheric		yer (ODP	)	kg CFC1		2.83E-10		)	5.88E-15		IE-11	0	-5.68E-11	
			and wate atic freshv	, ,	freshwate	er)	mol H <sup>+</sup> kg P €	· ·	6.77E-02 1.38E-04			9.08E-05 1.65E-07	-	E-03 E-06	0	-1.22E-02 -1.24E-05	
			atic marine	,		.,	kg N e		2.06E-02		)	3.75E-05		'E-03	0	-3.12E-03	
Eutrophic	ation pote	ential terre	estrial (EP	-terrestria	l)		mol N	eq	2.23E-01	(	)	4.27E-04	2.25	5E-02	0	-3.32E-02	
Formation (POCP)	n potentia	l of tropos	spheric oz	one photo	chemical	oxidants	kg NMV eq	'OC	9.71E-02		)	8.12E-05	4.76	6E-03	0	-8.95E-03	
	· · ·		r non foss			)	kg Sb	eq	2.38E-05			2.98E-09		2E-07	0	-1.96E-06	
Abiotic de	epletion po	otential fo	r fossil res	ources (A	DPF)		MJ		9.54E+02		)	6.16E-01	3.59	E+01	0	-1.42E+02	
Water us	e (WDP)						m <sup>3</sup> world eq deprived		3.46E+00 0		) (	5.46E-04	2.43E+00		0	-9.13E-01	
														EN 15804+A2: 1 m <sup>2</sup> lining LS			
RESUL	TS OF	THE LC	CA - IND	ICATO	RS TO	DESCR		- 1	RCE USI	Eaccor	ding to	) EN 1580	4+A2:	1 m² li	ning LS	В	
RESUL Param		THE LC	CA - IND		RS TO	DESCR		sou	RCE USI A1-A3	- 1	ding to	EN 1580 C2		1 m² li 3	ning LS C4	BD	
Param	eter		CA - IND			DESCR	IBE RE	sou		C			C				
Paramo Renewab Renewab (PERM)	eter de primary de primary	/ energy a / energy r	as energy resources	carrier (Pl as materia	ERE) al utilizatio		IBE RE Uni	sou	A1-A3	C	:1	C2	8.53	3	C4	D	
Paramo Renewati Renewati (PERM) Total use	eter de primary de primary of renewa	/ energy a / energy r able prima	as energy resources ary energy	carrier (Pl as materia resource	ERE) al utilizatio s (PERT)	on	IBE RE Uni MJ MJ	sou	<b>A1-A3</b> 1.71E+02 6.57E+00 1.78E+02		21 2) 2) 2)	<b>C2</b> 4.48E-02 0 4.48E-02	8.53 -1.29 8.41	<b>3</b> E+00 5E-01 E+00	C4 0 0	D -3.95E+01 0 -3.95E+01	
Paramo Renewab (PERM) Total use Non rene	eter ole primary ole primary of renewa wable prir	y energy a y energy r able prima mary ener	as energy resources ary energy rgy as ene	carrier (Pl as materia resource rgy carrie	ERE) al utilizatio s (PERT) r (PENRE	on :)	IBE RE Uni MJ MJ MJ	sou	A1-A3 1.71E+02 6.57E+00 1.78E+02 7E+02		21 2) 2) 2) 2) 2)	<b>C2</b> 4.48E-02 0 4.48E-02 6.18E-01	8.53 -1.25 8.41 2.81	<b>23</b> E+00 5E-01 E+00 E+02	C4 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02	
Paramo Renewab (PERM) Total use Non rene	eter ble primary ble primary of renewa wable prir wable prir	/ energy a / energy r able prima mary ener mary ener	as energy resources ary energy rgy as ene rgy as mat	carrier (Pl as materia resource rgy carrie erial utiliz	ERE) al utilizatio s (PERT) r (PENRE ation (PEI	on ;) NRM)	IBE RE Uni MJ MJ MJ MJ MJ	sou	A1-A3 1.71E+02 6.57E+00 1.78E+02 7E+02 2.54E+02		: <b>1</b> ) ) ) ) ) ) ) )	C2 4.48E-02 0 4.48E-02 6.18E-01 0	8.53 -1.25 8.41 2.81 -2.45	S3       E+00       5E-01       E+00       E+02       5E+02	C4 0 0 0 0 0 0	D -3.95E+01 0 -3.95E+01 -1.42E+02 0	
Parame Renewab (PERM) Total use Non rene Total use	eter ble primary ble primary of renewa wable prir wable prir of non ren	/ energy a / energy r able prima mary ener mary ener newable p	as energy resources ary energy rgy as ene rgy as mat primary en	carrier (Pl as materia resource rgy carrie erial utiliz	ERE) al utilizatio s (PERT) r (PENRE ation (PEI	on ;) NRM)	IBE RE Uni MJ MJ MJ MJ MJ MJ	sou	A1-A3 1.71E+02 6.57E+00 1.78E+02 7E+02 2.54E+02 9.54E+02		: <b>1</b> ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	C2 4.48E-02 0 4.48E-02 6.18E-01 0 6.18E-01	8.53 -1.29 8.41 2.81 -2.45 3.59	:3       :E+00       :5E-01       :E+00       :E+02       :5E+02       :E+01	C4 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02	
Parame Renewab (PERM) Total use Non rene Total use Use of se	eter le primary le primary of renewa wable prir wable prir of non ren condary r	/ energy a / energy r able prima mary ener mary ener newable p naterial (S	as energy resources ary energy rgy as ene rgy as mat primary en	carrier (Pl as materia resource rgy carrie rerial utiliz ergy reso	ERE) al utilizatio s (PERT) r (PENRE ation (PEI	on ;) NRM)	IBE RE Uni MJ MJ MJ MJ MJ	sou	A1-A3 1.71E+02 6.57E+00 1.78E+02 7E+02 2.54E+02		: <b>1</b> ) ) ) ) ) ) ) )	C2 4.48E-02 0 4.48E-02 6.18E-01 0	8.53 -1.25 8.41 2.81 -2.45 3.59	S3       E+00       5E-01       E+00       E+02       5E+02	C4 0 0 0 0 0 0	D -3.95E+01 0 -3.95E+01 -1.42E+02 0	
Parame Renewab (PERM) Total use Non rene Total use Use of se Use of re	eter ole primary of renewa wable prir wable prir of non ren econdary r newable s	/ energy a / energy r able prima mary ener mary ener mary ener newable p material (S secondary	as energy resources ary energy rgy as ene rgy as mat primary en SM)	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso F)	ERE) al utilizatio s (PERT) r (PENRE ation (PEI	on ;) NRM)	IBE RE Uni MJ MJ MJ MJ MJ MJ kg	sou	A1-A3 1.71E+02 6.57E+00 1.78E+02 7E+02 2.54E+02 9.54E+02 1.47E+00		1       0       0       0       0       0       0       0       0       0       0       0       0       0	C2 4.48E-02 0 4.48E-02 6.18E-01 0 6.18E-01 0	8.53 -1.25 8.44 2.81 -2.45 3.59	:3       :E+00       :5E-01       :E+00       :E+02       :5E+02       :E+01       0	C4 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01	
Parame Renewab (PERM) Total use Non rene Total use Use of se Use of re Use of no	eter ole primary of renewa wable prir wable prir of non ren econdary r newable s	y energy a y energy r able prima mary ener mary ener newable p material (\$ secondary ble secon	as energy resources ary energy rgy as ene rgy as mat orimary en SM) y fuels (RS	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso F)	ERE) al utilizatio s (PERT) r (PENRE ation (PEI	on ;) NRM)	IBE RE Uni MJ MJ MJ MJ MJ MJ Kg MJ	sou	A1-A3 1.71E+02 6.57E+00 1.78E+02 7E+02 2.54E+02 9.54E+02 1.47E+00 0		1       )	C2 4.48E-02 0 4.48E-02 6.18E-01 0 6.18E-01 0 0	8.53 -1.24 8.44 2.81 -2.45 3.59	:3       E+00       5E-01       E+00       E+02       5E+02       E+01       0       0	C4 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0	
Parama Renewab (PERM) Total use Non rene Total use Use of se Use of re Use of ne Use of ne RESUL	eter of renewa wable primary wable prim wable prim of non renewa condary r newable s on renewa et fresh wa TS OF	/ energy a / energy r able prima mary ener mary ener mewable p material (\$ secondary ble secor ater (FW) THE LC	as energy resources ary energy rgy as ene rgy as mat primary en SM) y fuels (RS ndary fuels	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) ((NRSF)	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE	on ;) NRM) :NRT)	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ	t	A1-A3 1.71E+02 6.57E+00 1.78E+02 7E+02 2.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01		1       )	C2 4.48E-02 0 4.48E-02 6.18E-01 0 6.18E-01 0 0 0 0	8.53 -1.24 8.44 2.81 -2.45 3.59 	<b>:3</b> E+00           5E-01           E+00           E+02           5E+02           E+01           0           0           0           0	C4 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           0	
Parama Renewab (PERM) Total use Non rene Total use Use of se Use of re Use of ne Use of ne RESUL	eter of renewa wable primary of renewa wable prim wable prim of non ren coondary r newable s on renewa et fresh wa TS OF ing LS	/ energy a / energy r able prima mary ener mary ener mewable p material (\$ secondary ble secor ater (FW) THE LC	as energy resources ary energy rgy as ene rgy as mat primary en SM) y fuels (RS ndary fuels	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) ((NRSF)	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE	on ;) NRM) :NRT)	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ	SOU t	A1-A3 1.71E+02 6.57E+00 1.78E+02 7E+02 2.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01		1       )	C2 4.48E-02 6.18E-01 0 6.18E-01 0 6.18E-01 0 0 0 4.91E-05	6.07 4+A2:	<b>:3</b> E+00           5E-01           E+00           E+02           5E+02           E+01           0           0           0           0	C4 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           0	
Parama Renewab (PERM) Total use Non rene Total use Use of se Use of no Use of no RESUL 1 m <sup>2</sup> lin Parama	eter of renewa wable primary of renewa wable prim wable prim of non ren coondary r newable s on renewa et fresh wa TS OF ing LS	/ energy a / energy r able prima mary ener newable p material (s secondary ble secon ater (FW) THE LC B	as energy resources ary energy gy as ene gy as mat primary en SM) / fuels (RS dary fuels CA – WA	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) ((NRSF)	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE	on ;) NRM) :NRT)	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ OU	SOU t	A1-A3 1.71E+02 6.57E+00 1.78E+02 7E+02 2.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01 T FLOWS		:1       :0	C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 0 4.91E-05 EN 1580	<ul> <li>C</li> <li>8.53</li> <li>-1.24</li> <li>8.41</li> <li>2.81</li> <li>-2.45</li> <li>3.59</li> <li>6.07</li> <li>4+A2:</li> </ul>	:3       :E+00       :5E-01       :E+00       :E+02       :E+01       0       0       0       :2E+02	C4 0 0 0 0 0 0 0 0 0 0	D -3.95E+01 0 -3.95E+01 -1.42E+02 0 -1.42E+02 2.71E-01 0 0 -3.94E-02	
Parama Renewala (PERM) Total use Non rene Total use Use of re Use of no Use of no Use of no <b>RESUL</b> 1 m <sup>2</sup> lin Parama Hazardou Non haza	eter eter eter ele primary of renewa wable prim wable prim wable prim of non renewa to fon nerewa eter renewa to fresh wa to fresh wa	/ energy a / energy r able prima mary ener mary ener material (s secondary ble secon ater (FW) <b>THE LO</b> B lisposed ( ste disposed (	as energy resources ary energy gy as energy gy as mat primary en SM) / fuels (RS idary fuels CA – WA (HWD) sed (NHW	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) : (NRSF) ASTE C	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE	on ;) NRM) :NRT)	IBE RE Unii MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ OU Uni	SOU t	A1-A3 1.71E+02 6.57E+00 1.78E+02 2.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01 <b>FLOWS</b> A1-A3 1.62E-05 1.91E+00		:1       )	C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 0 4.91E-05 EN 1580 C2 1.91E-12 9.43E-05	<ul> <li>C</li> <li>8.53</li> <li>-1.24</li> <li>8.41</li> <li>2.81</li> <li>-2.45</li> <li>3.59</li> <li>6.07</li> <li>4+A2:</li> <li>C</li> <li>1.25</li> <li>9.51</li> </ul>	:3       :E+00       :5E-01       :E+00       :E+02       :E+01       :0       0       0       :F-02	C4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           -3.94E-02	
Parama Renewala (PERM) Total use Non rene Total use Use of re Use of no Use of no Use of no <b>RESUL</b> 1 m <sup>2</sup> lin Parama Hazardou Non haza Radioacti	eter of renewa wable primary of renewa wable prim wable prim of non renewa to from renewa to fresh wa to fresh wa	/ energy a / energy r able prima nary ener navable p naterial (S secondary ble secon ater (FW) <b>THE LO</b> B lisposed ( ste disposed	as energy resources ary energy gy as energy gy as mat primary en SM) / fuels (RS idary fuels CA – WA (HWD) sed (NHW (RWD)	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) : (NRSF) ASTE C	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE	on ;) NRM) :NRT)	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ m <sup>3</sup> ND OU Uni kg kg kg	SOU t	A1-A3 1.71E+02 6.57E+00 1.78E+02 2.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01 <b>FLOWS</b> A1-A3 1.62E-05 1.91E+00 3.28E-02		:1	C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 0 4.91E-05 EN 1580 C2 1.91E-12 9.43E-05 1.16E-06	<ul> <li>C</li> <li>8.53</li> <li>-1.24</li> <li>8.41</li> <li>2.81</li> <li>-2.45</li> <li>3.59</li> <li>6.07</li> <li>4+A2:</li> <li>C</li> <li>1.25</li> <li>9.51</li> <li>1.01</li> </ul>	:3       :E+00       :5E-01       :E+00       :E+02       :E+01       :0       0       0       :F-02	C4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           -3.94E-02           D           -4.37E-05           -1.3E-02           -1.03E-02	
Parama Renewala (PERM) Total use Non rene Total use Use of se Use of no Use of no Use of no <b>RESUL</b> 1 m <sup>2</sup> lin Parama Hazardou Non haza Radioacti Compone	eter of renewa wable primary of renewa wable prim of non renewa to fresh wa the fre	/ energy a / energy r able prima mary ener mary ener material (S secondary ble secon ater (FW) <b>THE LO</b> B lisposed ( ste disposed usposed (CRI	as energy resources ary energy gy as energy gy as mat primary en SM) / fuels (RS dary fuels CA – WA (HWD) sed (NHW (RWD) U)	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) : (NRSF) ASTE C	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE	on ;) NRM) :NRT)	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ	SOU t	A1-A3 1.71E+02 6.57E+00 1.78E+02 2.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01 <b>FLOWS</b> A1-A3 1.62E-05 1.91E+00 3.28E-02 0		:1	C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 0 4.91E-05 EN 1580 C2 1.91E-12 9.43E-05 1.16E-06 0	<ul> <li>C</li> <li>8.53</li> <li>-1.24</li> <li>8.41</li> <li>2.81</li> <li>-2.45</li> <li>3.59</li> <li>6.07</li> <li>4+A2:</li> <li>C</li> <li>9.51</li> <li>1.01</li> </ul>	:3       :E+00       :5E-01       :E+00       :E+02       :E+01       :0       :0       :0       :0       :0       :0       :0       :0       :0       :0       :0       :0       :0       :0       :0       :0       :0       :0	C4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           -3.94E-02	
Parama Renewala (PERM) Total use Non rene Total use Use of se Use of ne Use of ne Use of ne Use of ne <b>RESUL</b> 1 m <sup>2</sup> lin Parama Hazardou Non haza Radioacti Compone	eter of renewa wable primary of renewa wable prim wable prim of non renewa to from renewa to fresh wa to fresh wa	/ energy a / energy r able prima mary ener mary ener material (S secondary ble secon ater (FW) THE LC B lisposed ( ste disposed disposed -use (CRI ing (MFR	as energy resources ary energy gy as energy gy as mat primary en SM) / fuels (RS dary fuels CA – WA (HWD) sed (NHW (RWD) U)	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) : (NRSF) ASTE C	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE	on ;) NRM) :NRT)	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ	SOU t	A1-A3 1.71E+02 6.57E+00 1.78E+02 2.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01 <b>FLOWS</b> A1-A3 1.62E-05 1.91E+00 3.28E-02		:1	C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 0 4.91E-05 EN 1580 C2 1.91E-12 9.43E-05 1.16E-06 0 0	C 8.53 -1.24 8.44 2.81 -2.45 3.59 6.07 4+A2: 0 0 1.25 9.51 1.01 2.9	:3       :E+00       :5E-01       :E+00       :E+02       :E+01       :0       0       0       :F-02	C4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           -3.94E-02           D           -4.37E-05           -1.3E-02           -1.03E-02	
Parama Renewala (PERM) Total use Non rene Total use Use of se Use of ne Use of ne Use of ne Use of ne <b>RESUL</b> 1 m <sup>2</sup> lin Parama Hazardou Non haza Radioacti Compone Materials	eter of renewa wable primary of renewa wable prim of non renewa to fresh wa the fre	/ energy a / energy r able prima nary ener navable p naterial (S secondary ble secon ater (FW) <b>THE LO</b> B lisposed ( ste disposed disposed -use (CRI ing (MFR y recover	as energy resources ary energy gy as energy gy as mat primary en SM) / fuels (RS idary fuels CA – WA (HWD) sed (NHW (RWD) U) ) y (MER)	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) : (NRSF) ASTE C	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE	on ;) NRM) :NRT)	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ	SOU t	A1-A3 1.71E+02 6.57E+00 1.78E+02 2.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01 <b>FLOWS</b> A1-A3 1.62E-05 1.91E+00 3.28E-02 0 0		:1       )	C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 0 4.91E-05 EN 1580 C2 1.91E-12 9.43E-05 1.16E-06 0	C 8.53 -1.24 8.44 2.81 -2.45 3.59 6.07 4+A2: 0 5.1 1.25 9.51 1.01 2.90	:3       :E+00       :5E-01       :E+00       :E+02       :E+01       0       0       0       :E+02       :E+01       :0       :E+02       :E+01       :E+02       :E+01       :E+03       :E+01	C4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           -3.94E-02	
Parama Renewala (PERM) Total use Non rene Total use Use of se Use of ne Use of ne Use of ne Use of ne <b>RESUL</b> 1 m <sup>2</sup> lin Parama Hazardou Non haza Radioacti Compone Materials Exported	eter le primary of renewa wable primary of renewa wable primary of non renewa to for non renewa to fresh wa <b>TS OF</b> <b>ing LS</b> <b>eter</b> us waste of ardous wa ve waste ents for re- for recycl for energ	/ energy a / energy r able prima mary ener mary ener material (s secondary ble secon ater (FW) <b>THE LO</b> B lisposed ( ste disposed disposed use (CRI ing (MFR y recover energy (E	as energy resources ary energy gy as energy gy as mat orimary en SM) / fuels (RS idary fuels CA – WA (HWD) sed (NHW (RWD) U) ) y (MER) EEE)	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) : (NRSF) ASTE C	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE	on ;) NRM) :NRT)	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ	SOU t	A1-A3 1.71E+02 6.57E+00 1.78E+02 2.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01 <b>FLOWS</b> A1-A3 1.62E-05 1.91E+00 3.28E-02 0 0 0 0		:1       )	C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 6.18E-01 0 0 4.91E-05 EN 1580 C2 1.91E-12 9.43E-05 1.16E-06 0 0 0 0	C 8.53 -1.24 8.44 2.81 -2.45 3.59 6.07 4+A2: 9.51 1.01 2.99 3.43	:3       :E+00       :5E-01       :E+00       :E+02       :E+01       0       0       0       :E+02       :E+01       0       :E+02       :E+01       :E+02       :E+01       :E+03       :E+01       :E+01       :E+01       :E+01       :E+01	C4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           -3.94E-02	
Parama Renewab (PERM) Total use Non rene Total use Use of se Use of re Use of ne Use of ne Use of ne Use of ne Use of ne <b>RESUL</b> Materials Exported Exported RESUL	eter le primary le primary of renewa wable primary of renewa wable primary of non renewall condary r newable s on renewa at fresh was tresh wa	/ energy a / energy a / energy r able prima mary ener mary ener mary ener material (S secondary ble secon ater (FW) THE LO B disposed ( ste disposed disposed ( ste disposed disposed ( ste disposed use (CRI ing (MFR y recover energy (EE nergy (EE	as energy resources ary energy rgy as energy gy as mat primary en SM) r fuels (RS ndary fuels CA – WA (HWD) Sed (NHW (RWD) U) ) y (MER) EEE) ET)	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) (NRSF) STE C,	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE	on NRM) NRT) RIES A	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ MJ m <sup>3</sup> ND OU Uni kg kg kg kg kg kg kg kg kg MJ MJ	SOU t TPU t	A1-A3 1.71E+02 6.57E+00 1.78E+02 2.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01 <b>FLOWS</b> A1-A3 1.62E-05 1.91E+00 3.28E-02 0 0 0 0 4.89E+00		:1       >	C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 0 4.91E-05 EN 1580 C2 1.91E-12 9.43E-05 1.16E-06 0 0 0 0 0 0 0	C 8.53 -1.24 8.44 2.81 -2.45 3.59 6.07 4+A2: 9.51 1.01 2.99 3.43	:3       E+00       5E-01       E+00       E+02       isE+02       E+01       0       0       0       0       0       0       0       0       0       0       0       2:3       0       E-10       E+00       IE-03       0       E-01       0       E+01       0	C4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           -3.94E-02	
Parama Renewab (PERM) Total use Non rene Total use Use of se Use of re Use of ne Use of ne Use of ne Use of ne Use of ne <b>RESUL</b> Materials Exported Exported RESUL	eter le primary le primary of renewa wable primary of renewa wable prim of non renewall condary r newable s on renewall et fresh was tresh was	/ energy a / energy a / energy r able prima mary ener mary ener mary ener material (S secondary ble secon ater (FW) THE LO B disposed ( ste disposed disposed ( ste disposed disposed ( ste disposed use (CRI ing (MFR y recover energy (EE nergy (EE	as energy resources ary energy rgy as energy gy as mat primary en SM) r fuels (RS ndary fuels CA – WA (HWD) Sed (NHW (RWD) U) ) y (MER) EEE) ET)	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) (NRSF) STE C,	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE	on NRM) NRT) RIES A	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ MJ m <sup>3</sup> ND OU Uni kg kg kg kg kg kg kg kg kg MJ MJ	SOU t TPU <sup>*</sup>	A1-A3 1.71E+02 6.57E+00 1.78E+02 2.54E+02 9.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01 <b>T FLOWS</b> A1-A3 1.62E-05 1.91E+00 3.28E-02 0 0 0 4.89E+00 8.86E+00 ding to E		1       0	C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 4.91E-05 EN 1580 C2 1.91E-12 9.43E-05 1.16E-06 0 0 0 0 0 0 0 0 0 0 0	4+A2: 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0	:3       E+00       5E-01       E+00       E+02       isE+02       E+01       0       0       0       0       0       0       0       0       0       0       0       2:3       0       E-10       E+00       IE-03       0       E-01       0       E+01       0	C4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           -3.94E-02	
Parama Renewab (PERM) Total use Non rene Total use Use of se Use of ne Use of ne ESUL 1 m <sup>2</sup> lin Parama Exported Exported	eter eter eter of renewa wable primary of renewa wable prim wable prim of non renewa eter of non renewa eter tresh was eter us waste of ardous wa ive waste ents for re- for recycl for energ electrical thermal e TS OF ing LS eter	/ energy a / energy r able prima mary ener mary ener newable p material (S secondary ble secon ater (FW) THE LO B lisposed ( ste disposed disposed disposed use (CRI ing (MFR y recover energy (EE THE LO B	as energy resources ary energy rgy as energy gy as mat primary en SM) r fuels (RS ndary fuels CA – WA (HWD) Sed (NHW (RWD) U) ) y (MER) EEE) ET)	carrier (Pl as materia resource rgy carrie erial utiliz ergy reso SF) (NRSF) (NRSF) (STE C. D)	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE ATEGO	on NRM) NRT) RIES A	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ	SOU t TPU t t cccore	A1-A3 1.71E+02 6.57E+00 1.78E+02 2.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01 <b>FLOWS</b> A1-A3 1.62E-05 1.91E+00 3.28E-02 0 0 0 4.89E+00 8.86E+00		1       0	C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 0 4.91E-05 EN 1580 C2 1.91E-12 9.43E-05 1.16E-06 0 0 0 0 0 0 0	C       8.53       -1.24       8.41       2.81       -2.45       3.59       -       6.07       4+A2:       9.51       1.01       2.9       3.43       6.29	23         E+00         5E-01         E+00         E+02         5E+02         E+01         0         0         'Z         0         E-10         E+02         SE-01         0         0         E-01         0         E-01         0         E+01         E+01         E+01         E+01	C4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           -3.94E-02             D           -4.37E-05           -1.3E-02           0           0           0           0	
Parama Renewab (PERM) Total use Non rene Total use Use of se Use of ne Use o	eter le primary le primary of renewa wable primary of renewa wable prim of non renewa tercondary r newable s on renewa at fresh was tresh was	/ energy a / energy a able prima mary ener mary ener mary ener material (S secondary ble secon ater (FW) THE LC B disposed ( ste disposed disposed ( ste disposed disposed ( ste disposed use (CRI ing (MFR y recover energy (EE THE LC B	as energy resources ary energy gy as energy gy as energy gy as mat primary en SM) r fuels (RS idary fuels cA – WA (HWD) sed (NHW (RWD) U) ) y (MER) EEE) ET) CA – ad	carrier (Pi as materia resource rgy carrie erial utiliz ergy reso SF) (NRSF) ASTE C, D) ditional	ERE) al utilizatio s (PERT) r (PENRE ation (PEI urces (PE ATEGO	on NRM) NRT) RIES A	IBE RE Uni MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ	SOU t TPU t t ccore	A1-A3 1.71E+02 6.57E+00 1.78E+02 2.54E+02 9.54E+02 9.54E+02 1.47E+00 0 0 2.15E-01 <b>T FLOWS</b> A1-A3 1.62E-05 1.91E+00 3.28E-02 0 0 0 4.89E+00 8.86E+00 ding to E A1-A3		:1     )       ) </td <td>C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 0 4.91E-05 EN 1580 C2 1.91E-12 9.43E-05 1.16E-06 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>C       8.53       -1.24       8.44       2.81       -2.45       3.59       6.07       4+A2:       0       1.25       9.51       1.01       2.99       3.43       6.26       1.13</td> <td>:3       :E+00       :5E-01       :E+00       :E+02       :E+01       0       0       0       0       :E+02       :E+01       0       :E+02       :E+01       :E+02       :E+01       :E+01       :E+01       :E+01       :E+01       :E+01       :E+01       :E+01       :E+01       :E+01</td> <td>C4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           -3.94E-02             D           -4.37E-05           -1.3E-02           0</td>	C2 4.48E-02 6.18E-01 0 6.18E-01 0 0 0 4.91E-05 EN 1580 C2 1.91E-12 9.43E-05 1.16E-06 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C       8.53       -1.24       8.44       2.81       -2.45       3.59       6.07       4+A2:       0       1.25       9.51       1.01       2.99       3.43       6.26       1.13	:3       :E+00       :5E-01       :E+00       :E+02       :E+01       0       0       0       0       :E+02       :E+01       0       :E+02       :E+01       :E+02       :E+01       :E+01       :E+01       :E+01       :E+01       :E+01       :E+01       :E+01       :E+01       :E+01	C4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D           -3.95E+01           0           -3.95E+01           -1.42E+02           0           -1.42E+02           2.71E-01           0           -3.94E-02             D           -4.37E-05           -1.3E-02           0	

CTUh

2.51E-07

0

-7.44E-09

9.92E-10

8.96E-12

0

Comparative toxic unit for humans (carcinogenic) (HTP-c)



Comparative toxic unit for humans (noncarcinogenic) (HTP-nc)	CTUh	4.87E-07	0	5.05E-10	9.44E-08	0	-5.37E-08
Soil quality index (SQP)	SQP	2.76E+02	0	2.57E-01	7.7E+00	0	-2.61E+01

Disclaimer 1 – for the indicator 'Potential Human exposure efficiency relative to U235'. 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 or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators 'abiotic depletion potential for non-fossil resources', 'abiotic depletion potential for fossil resources', 'water (user) deprivation potential, deprivation-weighted water consumption', 'potential comparative toxic unit for ecosystems', 'potential comparative toxic unit for humans – cancerogenic', 'Potential comparative toxic unit for humans - not cancerogenic', 'potential soil quality index'. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator.

Disclaimer 3 – for 'potential soil quality index'. Due to a data lack in the foreground data of VELUX, the result has a very high uncertainty and refers only to the background data, which contain respective information.

## References

### Standards

### EN 15804

EN 15804:2012+A2:2019+AC:2021, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

### ISO 14025

EN ISO 14025:2011, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.

### ISO 15686

ISO 15686-1:2011-05: Buildings and constructed assets - Service life planning

### EN 13245

EN 13245-2:2008: Plastics - Unplasticized poly(vinyl chloride) (PVC-U) profiles for building applications - Part 2: PVC-U profiles and PVC-UE profiles for internal and external wall and ceiling finishes

### **Further References**

### BBSR

BBSR, 24.02.2017, Nutzungsdauer von Bauteilen nach BNB

#### IBU 2021

Institut Bauen und Umwelt e.V.: General Instructions for the EPD programme of Institut Bauen und Umwelt e.V., Version

2.0, Berlin: Institut Bauen und Umwelt e.V., 2021 www.ibu-epd.com

### LCA FE 10.7 / MLC DB

Sphera's LCA Software for Experts / Managed LCA Content database, Sphera Solutions GmbH, Leinfelden-Echterdingen, database version 2023.1, 2023

### PCR part A

Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report according to EN 15804+A2:2019, version 1.3, IBU, 2022

### PCR part B

Requirements on the EPD for Windows and doors, version 01.08.2021,  $\mbox{IBU}$ 

#### **REACH/candidate list**

Regulation (EC) No 1907/2006: Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

### Regulation (EU) No. 305/2011 (CPR)

Regulation (EU) No 305/2011 of the European Parliament and of the

Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC Text with EEA relevance







# Publisher

Institut Bauen und Umwelt e.V. Hegelplatz 1 10117 Berlin Germany +49 (0)30 3087748- 0 info@ibu-epd.com www.ibu-epd.com

## Programme holder

Institut Bauen und Umwelt e.V. Hegelplatz 1 10117 Berlin Germany +49 (0)30 3087748- 0 info@ibu-epd.com www.ibu-epd.com









# Author of the Life Cycle Assessment

Daxner & Merl GmbH Schleifmühlgasse 13/24 1040 Wien Austria

Angela Schindler Umweltberatung Tüfinger Str. 12 88682 Salem Germany +43 676 849477826 office@daxner-merl.com www.daxner-merl.com

07553 919 9456 angela@schindler-umwelt.de www.schindler-umwelt.de

### **Owner of the Declaration**

VELUX Group Ådalsvej 99 2970 Hørsholm Denmark +4545164726 jakob.roerbech@velux.com www.velux.com