



EcoReview
Part of the solution.

Environmental Product Declaration

Type III Declaration according to
ISO 14025 and EN 15804+A2 &
NMD Assessment Method 1.2



Environmental Product Declaration

According to ISO 14025:2010 and EN 15804+A2



Product Declaration
Unit (DU or FU)
Declared by
Owner of Declaration
Verifier

Structural Insulated Panels (174 mm)
1 m²
Queenels Europe B.V.
Queenels Europe B.V.
Ecochain

LCA study by
Calculation number
Issue Date
Expiry Date

EcoReview B.V.
2025.025.
29-04-2025
29-04-2030

General Information

Owner of Declaration

Name	Queenels Europe B.V.
Street	Van de Reijtstraat 54
Postal Code	4814 NE
City	Breda
Contact	Julian Goote



Declaration for

Calculation Number	2025.025.
Issue Date	29-04-2025
Expiry Date	29-04-2030
Product	Structural Insulated Panels (174 mm)
Declared / Functional Unit	1 m ²
Reference Service Life	75 years.
Scalable product	n.a.
Geographical Representation	Produced (A1-D) at Queenels, Breda
Product Description	Structural insulated panels (SIPs) are sandwich panels that can be used as exterior wall, floor, roof and foundation systems.

Declaration Information

This Type III Environmental Product Declaration is in accordance with ISO 14025:2006 and EN 15804+A2. This certificate is based on an LCA-dossier developed according to ISO14025:2006, ISO14040 and EN15804+A2 and the NMD Assessment Method 1.2. EPD of construction products may not be comparable if they do not comply with EN15804+A2 and the NMD Assessment Method 1.2. Substances of Very High Concern (SVHC) that are listed on the 'Candidate List of Substances of Very High Concern for authorization' are declared when contents exceed the limits for registration with ECHA.

This LCA study was conducted by: Roel van Oosterhout, EcoReview B.V.

Demonstration of Verification

Statement	CEN standard EN15804 serves as the core PCR. Verification of the claim and data was carried out independently according to ISO 14025:2010
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Verifier	External
Name	Lex Roes, Ecochain
Signature	

LCA Information

LCA Standard	EN 15804+A2 + NMD Assessment Method 1.2
Product Category Rules (PCR)	n.a.
Additional PCR	Ecoinvent 3.6 + NMD 3.8
Standard Database	SimaPro 9.6.0.1
LCA Software	2024
Year of Data Collection	
ISO 14040:2006	

Environmental Product Declaration

Type III environmental declaration according to ISO 14025:2010 and EN 15804+A2 & NMD Assessment Method 1.2



Scope of Declaration

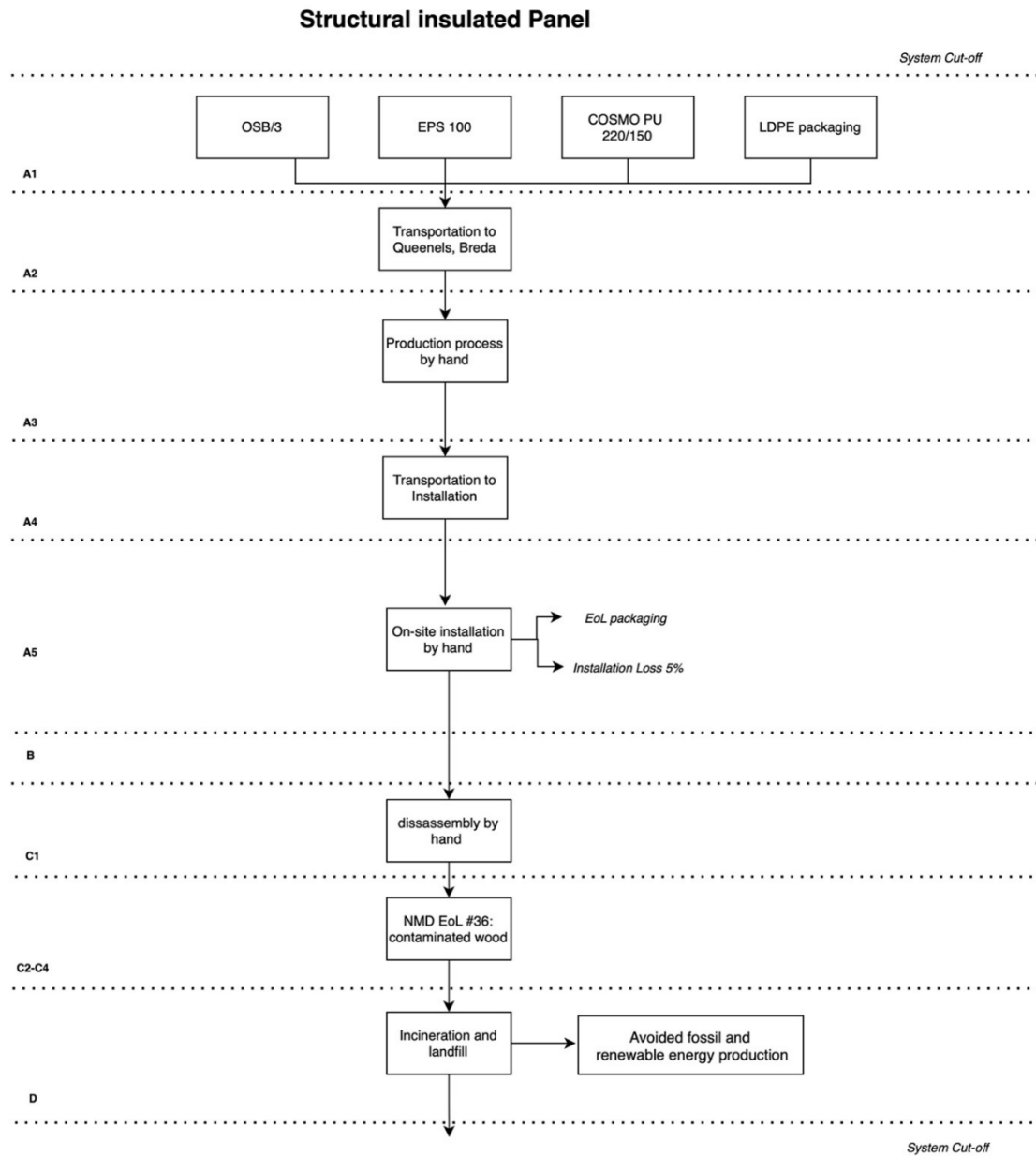
Lifecycle Stage	Module	Declared	Description
Production stage	A1	X	Raw Material supply
	A2	X	Transport
	A3	X	Manufacturing
Construction stage	A4	X	Transport
	A4	X	Installation
Use stage	B1	X	Use
	B2	X	Maintenance
	B3	X	Repair
	B4	X	Replacement
	B5	X	Refurbishment
	B6	X	Operational Energy Use
	B7	X	Operational Water Use
End-of-Life stage	C1	X	Deconstruction
	C2	X	Transport
	C3	X	Waste Processing
	C4	X	Disposal
Benefits and loads beyond the system boundaries	D	X	Reuse, Recycle, Recycling potential

X = Module Declared

MND = Module Not Declared



Process Diagram



Detailed Product Description

General Product Information

Structural insulated panels (SIPs) are sandwich panels that can be used as exterior wall, floor, roof, and foundation systems. SIPs can function as an alternative to building houses and small commercial buildings with bricks, offering a rigid strong frame and isolation all at once. They are made with an outer shell of oriented strand board of class 3 (OSB/3). Class 3, as defined in EN 300, are oriented strand boards with load bearing capabilities under humid conditions (CEN, 2006). In between the OSB/3 is an insulating core of expanded polystyrene foam (EPS). The R value of the SIP is $4,6 \text{ m}^2 \cdot \text{K/W}$.

Components (> 1%)

The division of components described below is intended to enable users of this EPD to understand the composition of the product for safe and effective installation, use and disposal of the product.

Component	Mass %
OSB/3	82,00%
EPS	17,08%
Glue	0,91%

Example Image



Figure: Representation of product..

Environmental Product Declaration

Type III environmental declaration according to ISO 14025:2010 and EN 15804+A2 & NMD Assessment Method 1.2



Results EN15804+A1

Set 1	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B5	C1	C2	C3	C4	D	A1-D
ECI	euro	2,29	0,04	0,02	2,35	0,02	0,17	0,00	0,00	0,04	0,57	0,01	-0,62	2,53
ECI	euro	2,29E+00	3,80E-02	1,73E-02	2,35E+00	2,16E-02	1,71E-01	0,00E+00	0,00E+00	4,18E-02	5,66E-01	5,66E-03	-6,20E-01	2,53E+00
Core Impact Indicators														
ADPE	kg Sb eq	2,81E-04	7,35E-06	8,58E-08	2,89E-04	4,18E-06	1,48E-05	0,00E+00	0,00E+00	8,87E-06	1,24E-06	1,17E-07	-1,57E-05	3,02E-04
ADPF	kg Sb eq	2,00E-01	3,19E-03	-5,73E-04	2,03E-01	1,81E-03	8,28E-03	0,00E+00	0,00E+00	2,55E-03	1,04E-03	1,25E-04	-4,53E-02	1,71E-01
GWP	kg CO2 eq	1,95E+01	4,28E-01	3,19E-01	2,03E+01	2,43E-01	2,18E+00	0,00E+00	0,00E+00	3,47E-01	9,11E+00	8,65E-02	-5,27E+00	2,70E+01
ODP	kg CFC-11 eq	1,48E-06	8,11E-08	-6,92E-09	1,55E-06	4,60E-08	4,77E-08	0,00E+00	0,00E+00	6,16E-08	2,37E-08	2,70E-09	-7,79E-07	9,52E-07
POCP	kg C2H4	2,49E-02	2,61E-04	-6,31E-06	2,52E-02	1,48E-04	1,14E-03	0,00E+00	0,00E+00	2,09E-04	8,01E-04	2,52E-05	-3,77E-03	2,37E-02
AP	kg SO2 eq	8,36E-02	1,11E-03	-6,41E-06	8,47E-02	6,33E-04	3,54E-03	0,00E+00	0,00E+00	1,53E-03	4,24E-03	7,20E-05	-2,30E-02	7,17E-02
EP	kg PO4--- eq	1,35E-02	1,83E-04	6,93E-06	1,37E-02	1,04E-04	4,51E-04	0,00E+00	0,00E+00	3,00E-04	1,10E-03	3,03E-05	-7,10E-03	8,60E-03
Toxicity Indicators for Dutch Market														
HTP	kg 1,4-DB eq	8,05E+00	9,21E-02	1,09E-02	8,15E+00	5,23E-02	3,95E-01	0,00E+00	0,00E+00	1,46E-01	8,21E-01	6,83E-03	-1,98E+00	7,60E+00
FAETP	kg 1,4-DB eq	2,96E-01	3,87E-03	1,15E-03	3,01E-01	2,20E-03	2,61E-02	0,00E+00	0,00E+00	4,27E-03	3,13E-02	3,73E-04	-3,90E-02	3,27E-01
MAETP	kg 1,4-DB eq	4,23E+02	1,05E+01	4,32E+00	4,38E+02	5,95E+00	3,95E+01	0,00E+00	0,00E+00	1,53E+01	6,64E+01	7,30E-01	-5,95E+01	5,06E+02
TETP	kg 1,4-DB eq	3,68E-02	5,20E-04	9,58E-05	3,75E-02	2,95E-04	1,40E-03	0,00E+00	0,00E+00	5,16E-04	5,41E-04	2,23E-05	-1,19E-02	2,83E-02

ECI = Environmental Cost Indicator (Milieukosten Indicator (MKI) in Dutch); ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; POCP = Formation potential of tropospheric ozone photochemical oxidants; AP = Acidification potential of land and water; EP = Eutrophication potential; HTP = Human toxicity potential; FAETP = Freshwater aquatic ecotoxicity potential; MAETP = Marine aquatic ecotoxicity potential; TETP = Terrestrial ecotoxicity potential; ECI = Environmental Costs Indicator; ADPF = Abiotic depletion potential for fossil resources

Environmental Product Declaration

Type III environmental declaration according to ISO 14025:2010 and EN 15804+A2 & NMD Assessment Method 1.2



Results EN15804+A2

Set 2	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B5	C1	C2	C3	C4	D	A1-D
ECI	euro	0,99	0,08	0,04	1,10	0,04	0,30	0,00	0,00	0,07	3,70	0,15	-1,22	4,14
ECI	euro	9,85E-01	7,69E-02	3,75E-02	1,10E+00	4,36E-02	3,04E-01	0,00E+00	0,00E+00	7,15E-02	3,70E+00	1,46E-01	-1,22E+00	4,14E+00
GWP-Total	kg CO2 eq	-6,86E+00	4,32E-01	3,18E-01	-6,11E+00	2,45E-01	1,99E+00	0,00E+00	0,00E+00	3,50E-01	3,06E+01	1,24E+00	-5,41E+00	2,29E+01
GWP-f	kg CO2 eq	1,57E+01	4,31E-01	3,18E-01	1,64E+01	2,45E-01	1,99E+00	0,00E+00	0,00E+00	3,50E-01	9,12E+00	3,38E-02	-5,34E+00	2,28E+01
GWP-b	kg CO2 eq	-2,26E+01	2,08E-04	-7,16E-07	-2,26E+01	1,18E-04	4,61E-03	0,00E+00	0,00E+00	1,62E-04	2,15E+01	1,21E+00	-5,22E-02	9,69E-02
GWP-luluc	kg CO2 eq	4,19E-02	1,08E-04	-1,69E-07	4,20E-02	6,11E-05	1,55E-03	0,00E+00	0,00E+00	1,28E-04	5,60E-05	5,38E-06	-1,14E-02	3,24E-02
ODP	kg CFC11 eq	1,31E-06	1,02E-07	-7,80E-09	1,40E-06	5,79E-08	3,86E-08	0,00E+00	0,00E+00	7,73E-08	2,59E-08	3,37E-09	-8,51E-07	7,51E-07
AP	mol H+ eq	7,26E-02	1,39E-03	-4,59E-06	7,40E-02	7,87E-04	2,57E-03	0,00E+00	0,00E+00	2,03E-03	6,26E-03	9,48E-05	-3,54E-02	5,03E-02
EP-fw	kg P eq	6,28E-04	3,01E-06	-1,06E-09	6,31E-04	1,71E-06	2,70E-05	0,00E+00	0,00E+00	3,53E-06	4,00E-06	2,23E-07	-1,05E-04	5,62E-04
EP-m	kg N eq	1,41E-02	3,19E-04	4,37E-06	1,44E-02	1,81E-04	4,72E-04	0,00E+00	0,00E+00	7,15E-04	2,90E-03	6,24E-05	-1,04E-02	8,34E-03
EP-t	mol N eq	1,43E-01	3,59E-03	4,98E-05	1,47E-01	2,04E-03	2,10E-03	0,00E+00	0,00E+00	7,89E-03	3,32E-02	3,50E-04	-1,65E-01	2,73E-02
POCP	kg NMVOC eq	7,10E-02	1,34E-03	-5,01E-07	7,24E-02	7,62E-04	2,89E-03	0,00E+00	0,00E+00	2,25E-03	8,69E-03	1,27E-04	-3,07E-02	5,64E-02
ADP-mm	kg Sb eq	8,78E-05	7,35E-06	8,58E-08	9,52E-05	4,18E-06	5,09E-06	0,00E+00	0,00E+00	8,87E-06	1,24E-06	1,17E-07	-1,57E-05	9,90E-05
ADP-f	MJ	3,47E+02	6,71E+00	-1,05E+00	3,53E+02	3,81E+00	1,42E+01	0,00E+00	0,00E+00	5,28E+00	1,94E+00	2,58E-01	-8,51E+01	2,93E+02
WDP	m3 depriv.	1,08E+01	2,85E-02	-6,35E-03	1,08E+01	1,62E-02	5,29E-01	0,00E+00	0,00E+00	1,89E-02	6,88E-02	1,11E-02	-4,39E-01	1,10E+01
PM	disease inc.	2,00E-06	2,99E-08	3,76E-10	2,03E-06	1,70E-08	8,62E-08	0,00E+00	0,00E+00	3,14E-08	5,00E-08	1,79E-09	-4,41E-07	1,78E-06
IR	kBq U-235 eq	3,46E-01	2,88E-02	-1,10E-04	3,74E-01	1,63E-02	1,81E-02	0,00E+00	0,00E+00	2,21E-02	5,22E-03	1,01E-03	-7,31E-02	3,64E-01
ETP-fw	CTUe	3,37E+02	4,89E+00	7,70E-02	3,42E+02	2,78E+00	4,59E+00	0,00E+00	0,00E+00	4,71E+00	4,74E+01	2,72E-01	-3,13E+02	8,88E+01
HTP-c	CTUh	6,35E-08	1,24E-10	4,88E-10	6,41E-08	7,03E-11	6,37E-09	0,00E+00	0,00E+00	1,53E-10	6,61E-08	7,26E-12	-3,82E-09	1,33E-07
HTP-nc	CTUh	7,02E-07	3,95E-09	1,48E-09	7,07E-07	2,24E-09	3,20E-08	0,00E+00	0,00E+00	5,15E-09	2,75E-08	2,66E-10	-1,33E-07	6,42E-07
SQP	Pt	7,08E+02	7,67E+00	3,53E-02	7,16E+02	4,35E+00	-2,42E+01	0,00E+00	0,00E+00	4,58E+00	7,20E-01	6,11E-01	-1,21E+03	-5,12E+02

ECI = Environmental Cost Indicator (Milieukosten Indicator (MKI) in Dutch); GWP-total = Climate change; GWP-f = Climate change - Fossil; GWP-b = Climate change - Biogenic; GWP-luluc = Climate change - Land use and LU change; ODP = Ozone depletion; AP = Acidification; EP-fw = Eutrophication, freshwater; EP-m = Eutrophication, marine; EP-t = Eutrophication, terrestrial; POCP = Photochemical ozone formation; ADP-mm = Resource use, minerals and metals; ADP-f = Resource use, fossils; WDP = Water use; PM = Particulate matter; IR = Ionising radiation; ETP-fw = Ecotoxicity, freshwater; HTP-c = Human toxicity, cancer; HTP-nc = Human toxicity, non-cancer; SQP = Land use

Environmental Product Declaration

Type III environmental declaration according to ISO 14025:2010 and EN 15804+A2 & NMD Assessment Method 1.2



Results Parameters

Parameter	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B5	C1	C2	C3	C4	D	A1-D
Resource Use														
PERE	MJ	1,52E+02	6,87E-02	-9,27E-04	1,52E+02	3,90E-02	3,80E+00	0,00E+00	0,00E+00	6,61E-02	9,47E-02	4,56E-03	0,00E+00	1,56E+02
PERM	MJ	1,77E+02	0,00E+00	0,00E+00	1,77E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,77E+02
PERT	MJ	3,30E+02	6,87E-02	-9,27E-04	3,30E+02	3,90E-02	3,80E+00	0,00E+00	0,00E+00	6,61E-02	9,47E-02	4,56E-03	0,00E+00	3,34E+02
PENRE	MJ	3,13E+02	7,12E+00	-1,17E+00	3,19E+02	4,04E+00	0,00E+00	0,00E+00	0,00E+00	5,60E+00	2,09E+00	2,74E-01	0,00E+00	3,31E+02
PENRM	MJ	5,98E+01	0,00E+00	0,00E+00	5,98E+01	0,00E+00	1,51E+01	0,00E+00	0,00E+00	3,47E-05	0,00E+00	0,00E+00	0,00E+00	7,50E+01
PENRT	MJ	3,73E+02	7,12E+00	-1,17E+00	3,79E+02	4,04E+00	1,51E+01	0,00E+00	0,00E+00	5,60E+00	2,09E+00	2,74E-01	0,00E+00	4,06E+02
PET	MJ	7,03E+02	7,19E+00	-1,17E+00	7,09E+02	4,08E+00	1,89E+01	0,00E+00	0,00E+00	5,67E+00	2,19E+00	2,79E-01	0,00E+00	7,40E+02
SM	kg	2,76E+00	0,00E+00	0,00E+00	2,76E+00	0,00E+00	1,38E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,90E+00
RSF	MJ	2,04E+02	0,00E+00	0,00E+00	2,04E+02	0,00E+00	1,02E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,14E+02
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	0,00E+00	0,00E+00	0,00E+00
FW	m3	5,01E-01	8,56E-04	-3,04E-05	5,02E-01	4,86E-04	2,54E-02	0,00E+00	0,00E+00	6,43E-04	9,72E-03	2,70E-04	0,00E+00	5,39E-01
Waste Categories														
HWD	kg	1,71E-04	1,66E-05	-7,92E-07	1,87E-04	9,41E-06	5,80E-06	0,00E+00	0,00E+00	1,34E-05	1,32E-05	3,96E-07	0,00E+00	2,29E-04
NHWD	kg	1,71E+00	5,83E-01	8,73E-03	2,31E+00	3,31E-01	2,42E-01	0,00E+00	0,00E+00	3,35E-01	2,24E-01	1,03E+00	0,00E+00	4,47E+00
RWD	kg	3,76E-04	4,55E-05	-1,60E-07	4,21E-04	2,59E-05	2,01E-05	0,00E+00	0,00E+00	3,47E-05	6,08E-06	1,53E-06	0,00E+00	5,10E-04
Output Flows														
CRU	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,80E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,80E-02
MER	MJ	0,00E+00	0,00E+00	1,68E-01	1,68E-01	0,00E+00	3,07E-01	0,00E+00	0,00E+00	0,00E+00	2,05E+01	0,00E+00	0,00E+00	2,10E+01
EE-E	MJ	0,00E+00	0,00E+00	7,84E-01	7,84E-01	0,00E+00	6,38E+00	0,00E+00	0,00E+00	0,00E+00	1,67E+02	0,00E+00	0,00E+00	1,75E+02
EE-T	MJ	0,00E+00	0,00E+00	5,28E-01	5,28E-01	0,00E+00	4,04E+00	0,00E+00	0,00E+00	0,00E+00	6,15E+01	0,00E+00	0,00E+00	6,61E+01

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total Energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **EIA** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]

Environmental Product Declaration

Type III environmental declaration according to ISO 14025:2010 and EN 15804+A2 & NMD Assessment Method 1.2



Biogenic Carbon Content

In the table below, information describing the biogenic carbon content at factory gate (A1-D) is described.

Biogenic Carbon Content	Amount (in kg C)
Biogenic Carbon in Product	6,46E+00
Biogenic Carbon in Packaging	0,00E+00
Note: 1 kg biogenic carbon (C) is equivalent to 44/12 kg CO ₂	

If the mass of biogenic carbon containing materials in the product is less than 5% of the mass of the product, the declaration of biogenic carbon may be omitted (= 0 kg).

If the mass of biogenic carbon containing materials in the packaging is less than 5% of the mass of the product, the declaration of biogenic carbon may be omitted (= 0 kg).



References

CML - Department of Industrial Ecology, CML-IA Characterisation Factors, Dated August 2016, Leiden University, Leiden, Netherlands Available at: <https://www.universiteitleiden.nl/en/research/research-output/science/cml-ia-characterisation-factors>.

PRé Sustainability - Simapro 9.6.0.1

EN 15804: Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products', I.S. EN 15804:2012+A1:2013 and EN 15804:2019+A2.

ISO 14040: Environmental management - Life cycle assessment – Principles and Framework', International Organization for Standardization, ISO14040:2006.

ISO 14044: Environmental management - Life cycle assessment - Requirements and guidelines', International Organization for Standardization, ISO14044:2006.

ISO 14025: Environmental labels and declarations -- Type III environmental declarations -- Principles and procedures', International Organization for Standardization, ISO14025:2006.

NMD Environmental Performance Assessment Method for Buildings version 1.2 (December 2024)

