

# ENVIRONMENTAL PRODUCT DECLARATION

## IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

Average EPD for Thioflex Jointing Compounds  
FOSROC® INTERNATIONAL LIMITED



**EPD HUB, HUB-1471**

Published on 28.05.2024, last updated on 28.05.2024, valid until 28.05.2029.

## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	FOSROC INTERNATIONAL LIMITED
Address	Drayton Manor Business Park, Coleshill Road, Tamworth, Staffordshire, B78 3XN, United Kingdom
Contact details	enquiryuk@fosroc.com
Website	https://www.fosroc.com/

### EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Kris Atkins (Ocker Environmental Ltd)
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Edis Glogic, as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

### PRODUCT

Product name	Average EPD for Thioflex Jointing Compounds
Additional labels	Includes products: Thioflex 600 Gun Grade (2.5L), Thioflex 600 Pouring Grade (5L), Thioflex 555 Machine Grade (30L and 400), Thioflex 555 Hand Grade (5L, 30L and 400L)
Product reference	Various
Place of production	Drayton Manor Business Park, Coleshill Road, Tamworth, Staffs. B783XN. United Kingdom
Period for data	2023
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3	+13% / -12% %

### ENVIRONMENTAL DATA SUMMARY

Declared unit	1L of Compound, after on-site mixing of components
Declared unit mass	1.59 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	2.44
GWP-total, A1-A3 (kgCO <sub>2</sub> e)	2.32
Secondary material, inputs (%)	0.5
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	10.5
Net fresh water use, A1-A3 (m <sup>3</sup> )	0.05

## PRODUCT AND MANUFACTURER

### ABOUT THE MANUFACTURER

Fosroc is a leading international manufacturer and supplier of high performance chemicals for the construction industry, with a particular focus on concrete repair materials, machinery grouts, concrete admixtures, waterproofing materials, joint sealants and protective coatings.

### PRODUCT DESCRIPTION

The Fosroc Thioflex range of products are high performance, elastomeric, polysulfide sealants for the sealing of joints in a variety of applications, including concrete roads, concrete runways, hard standings and general building and civil engineering structures, including superstructures, floors, basements and subways. The products comprise Thioflex 600 (Gun Grade and Pouring Grade) and Thioflex 555 (Hand Grade and Machine Grade).

Further information can be found at <https://www.fosroc.com/>.

### PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	-	-
Minerals	43	UK and Europe
Fossil materials	57	UK, Europe and Global
Bio-based materials	-	-

### BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.033

### FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1L of Compound, after on-site mixing of components
Mass per declared unit	1.59 kg
Functional unit	
Reference service life	

### SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

# PRODUCT LIFE-CYCLE

## SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

### MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

These Jointing Compound products are manufactured at the Fosroc manufacturing site in Tamworth, UK, following the same basic process of production outlined below.

Raw materials are measured into the bowl of a paddle-mixer, whereby the materials are mixed to desired consistency. Following QC testing and approval, the bowl is decanted by gravity into drums (for 400L product) or transferred to the tin line, where the mixed compound is pressed out into tins (all other products).

For Thioflex 600 products, a single tin contains layers of Polymer Paste, Pigment Paste (Gun Grade only) and Curing Agent. Thioflex 555 comes as two separate tins: a base and a hardener. Production waste is 1%.

Filled tins are labelled and stacked on pallets ready for shrink-wrapping and dispatch.

### TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Thioflex 600 (Gun Grade and Pouring Grade) and Thioflex 555 Hand Grade packs are mixed with a drill and paddle prior to being transferred to an application gun for installation.

30L and 400L packs of Thioflex 600 Machine Grade are transferred to a continuous pumping and mixing machine, a lance on the end of the machine is used to install the sealant into the prepared joint. Waste during installation is 5%.

### PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

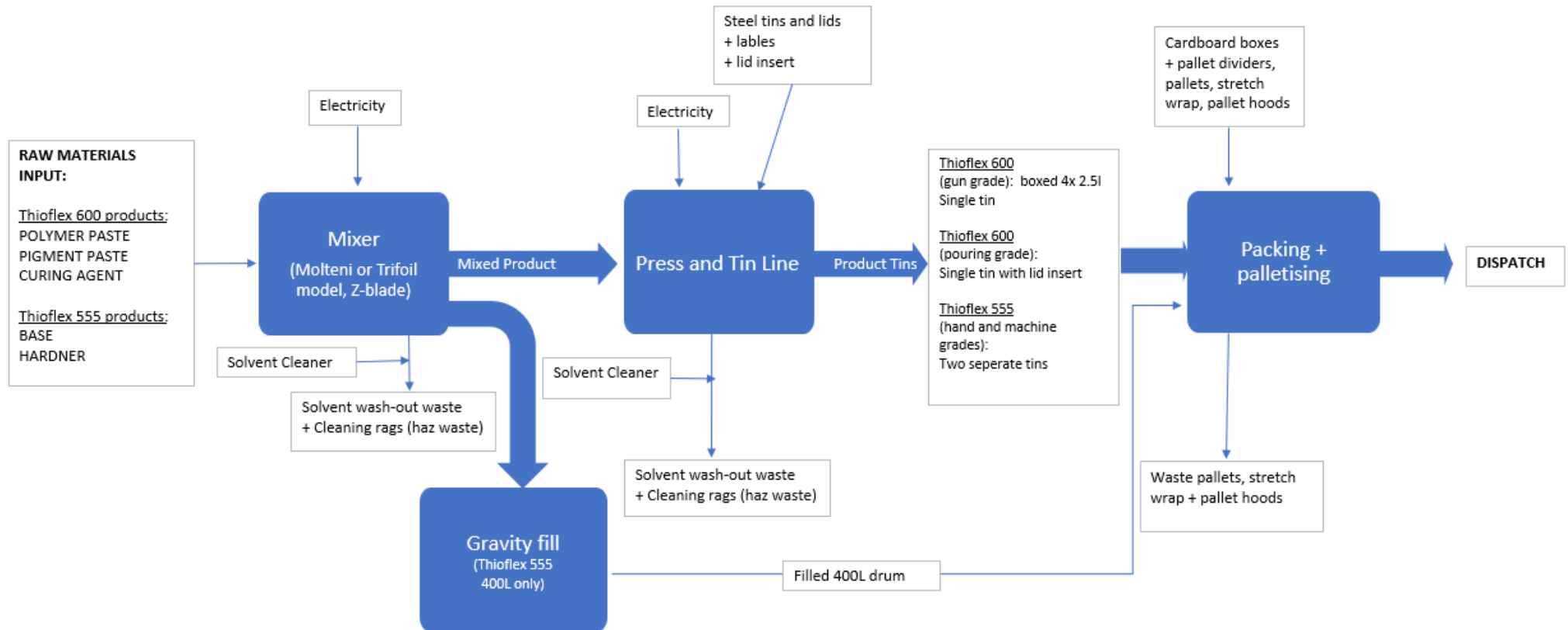
Air, soil, and water impacts during the use phase have not been studied.

### PRODUCT END OF LIFE (C1-C4, D)

At the end of its service life, the compound is cured and held within joint space in a structure. The product is cut away by hand and disposed of as non-hazardous waste, typically to incineration. The joint may then be re-sealed if the concrete itself has not yet reached the end of its service life.

Module D benefits and loads are associated with recycling of steel from packaging (and subsequent avoided primary steel production), incineration of waste wood packaging (and subsequent energy recovered) and from incineration of other mixed waste streams (with energy recovery).

# MANUFACTURING PROCESS



# LIFE-CYCLE ASSESSMENT

## CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

## ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	Partly allocated by mass or volume
Packaging materials	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

## AVERAGES AND VARIABILITY

Type of average	Multiple products
Averaging method	Averaged by shares of total mass
Variation in GWP-fossil for A1-A3	+13% / -12% %

This EPD applies to the following Jointing Compound Products:

- Thioflex 600 Gun Grade (2.5L)
- Thioflex 600 Pouring Grade (5L)
- Thioflex 555 Machine Grade (30L and 400L)
- Thioflex 555 Hand Grade (5L, 30L and 400L)

The base case (representative) product Thioflex 555 Machine Grade (30L), was selected as highly typical due to its typical raw material composition and typical GWP (fossil) content within the group, as well as being a product with high production and sales volumes. For this base case product, within units A1 - A3, 74% of GWP fossil impacts are associated with the raw materials, therefore this has been the main comparator for this average.

The Jointing Compound products are all manufactured by Fosroc at their manufacturing facility in the Drayton Manor Business Park site, using a common process. The products all share an equivalent purpose (filling of joints between areas of concrete substrate). Products in this group have very similar raw material composition- a balance of polymers, pigment and a curing agent.

The variance against the base case GWP fossil is shown below:

- MAX GWP (fossil) value: 2.23 kg CO<sub>2</sub>e / kg
- MIN GWP (fossil) value: 1.74 kg CO<sub>2</sub>e / kg
- Base Case Product GWP (fossil) value: 1.98 kg CO<sub>2</sub> e

Variance from base case product (max +/- 50%) :

- +13% max
- 12% min

### LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.8, Plastics Europe, Federal LCA Commons and One Click LCA databases as sources of environmental data.



# ENVIRONMENTAL IMPACT DATA

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	1,81E+00	2,30E-01	2,80E-01	2,32E+00	3,15E-01	5,12E-01	MND	MND	MND	MND	MND	MND	MND	MNR	7,45E-03	0,00E+00	7,87E-01	-7,59E-01
GWP – fossil	kg CO <sub>2</sub> e	1,82E+00	2,30E-01	3,96E-01	2,44E+00	3,15E-01	3,90E-01	MND	MND	MND	MND	MND	MND	MND	MNR	7,45E-03	0,00E+00	7,87E-01	-7,59E-01
GWP – biogenic	kg CO <sub>2</sub> e	-4,66E-03	0,00E+00	-1,17E-01	-1,22E-01	0,00E+00	1,22E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	1,86E-03	1,23E-04	5,48E-04	2,53E-03	1,81E-04	2,23E-04	MND	MND	MND	MND	MND	MND	MND	MNR	2,75E-06	0,00E+00	1,77E-05	-1,43E-04
Ozone depletion pot.	kg CFC <sub>11</sub> e	3,31E-07	4,97E-08	2,43E-08	4,05E-07	6,73E-08	4,85E-08	MND	MND	MND	MND	MND	MND	MND	MNR	1,71E-09	0,00E+00	6,47E-09	-3,29E-08
Acidification potential	mol H <sup>+</sup> e	1,30E-02	3,94E-03	1,64E-03	1,86E-02	1,67E-03	1,43E-03	MND	MND	MND	MND	MND	MND	MND	MNR	3,15E-05	0,00E+00	4,64E-04	-3,00E-03
EP-freshwater <sup>2)</sup>	kg Pe	1,08E-04	1,39E-06	1,57E-05	1,25E-04	4,68E-06	1,11E-05	MND	MND	MND	MND	MND	MND	MND	MNR	6,10E-08	0,00E+00	7,71E-07	-2,98E-05
EP-marine	kg Ne	2,05E-03	9,96E-04	3,24E-04	3,37E-03	4,90E-04	2,87E-04	MND	MND	MND	MND	MND	MND	MND	MNR	9,38E-06	0,00E+00	2,03E-04	-6,18E-04
EP-terrestrial	mol Ne	2,01E-02	1,11E-02	3,62E-03	3,48E-02	5,46E-03	3,07E-03	MND	MND	MND	MND	MND	MND	MND	MNR	1,03E-04	0,00E+00	2,09E-03	-7,20E-03
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	6,58E-03	2,97E-03	1,52E-03	1,11E-02	1,79E-03	9,22E-04	MND	MND	MND	MND	MND	MND	MND	MNR	3,31E-05	0,00E+00	5,19E-04	-3,62E-03
ADP-minerals & metals <sup>4)</sup>	kg Sbe	4,26E-05	4,39E-07	1,66E-06	4,47E-05	5,83E-06	3,23E-06	MND	MND	MND	MND	MND	MND	MND	MNR	1,75E-08	0,00E+00	1,91E-07	-1,37E-05
ADP-fossil resources	MJ	3,08E+01	3,20E+00	8,06E+00	4,21E+01	4,68E+00	4,11E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,12E-01	0,00E+00	5,18E-01	-7,14E+00
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	9,51E+00	1,24E-02	3,10E-01	9,84E+00	2,70E-02	5,38E-01	MND	MND	MND	MND	MND	MND	MND	MNR	5,01E-04	0,00E+00	1,05E-01	-1,39E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO<sub>4</sub>e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

### ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,12E-07	1,77E-08	1,81E-08	1,48E-07	3,24E-08	1,28E-08	MND	MND	MND	MND	MND	MND	MND	MNR	8,59E-10	0,00E+00	4,05E-09	-4,78E-08
Ionizing radiation <sup>6)</sup>	kBq U235e	2,88E-01	1,51E-02	7,71E-02	3,81E-01	2,42E-02	5,56E-02	MND	MND	MND	MND	MND	MND	MND	MNR	5,33E-04	0,00E+00	2,09E-03	6,61E-03
Ecotoxicity (freshwater)	CTUe	7,64E+01	2,52E+00	6,91E+00	8,58E+01	4,84E+00	8,75E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,01E-01	0,00E+00	3,95E+00	-2,58E+01
Human toxicity, cancer	CTUh	7,27E-09	1,05E-10	8,79E-10	8,25E-09	4,43E-10	5,72E-10	MND	MND	MND	MND	MND	MND	MND	MNR	2,47E-12	0,00E+00	2,20E-10	6,08E-09
Human tox. non-cancer	CTUh	1,05E-07	2,21E-09	4,70E-09	1,12E-07	5,99E-09	8,07E-09	MND	MND	MND	MND	MND	MND	MND	MNR	9,96E-11	0,00E+00	8,17E-09	-1,75E-08
SQP <sup>7)</sup>	-	1,24E+01	2,36E+00	1,15E+01	2,62E+01	3,02E+00	2,04E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,29E-01	0,00E+00	3,38E-01	-2,45E+00

6) EN 15804+A2 disclaimer for ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

### USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	2,78E+00	3,06E-02	1,48E+00	4,29E+00	1,16E-01	4,10E-01	MND	MND	MND	MND	MND	MND	MND	MNR	1,26E-03	0,00E+00	1,66E-02	-6,21E-01
Renew. PER as material	MJ	4,35E-02	0,00E+00	1,02E+00	1,07E+00	0,00E+00	-1,07E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,82E+00	3,06E-02	2,51E+00	5,36E+00	1,16E-01	-6,57E-01	MND	MND	MND	MND	MND	MND	MND	MNR	1,26E-03	0,00E+00	1,66E-02	-6,21E-01
Non-re. PER as energy	MJ	2,46E+01	3,20E+00	5,55E+00	3,33E+01	4,68E+00	3,67E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,12E-01	0,00E+00	5,18E-01	-7,15E+00
Non-re. PER as material	MJ	2,01E-04	0,00E+00	2,60E+00	2,60E+00	0,00E+00	-2,60E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	2,46E+01	3,20E+00	8,15E+00	3,59E+01	4,68E+00	1,07E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,12E-01	0,00E+00	5,18E-01	-7,15E+00
Secondary materials	kg	7,97E-03	1,13E-03	1,40E-02	2,31E-02	8,91E-04	1,54E-03	MND	MND	MND	MND	MND	MND	MND	MNR	3,11E-05	0,00E+00	5,68E-04	4,13E-01
Renew. secondary fuels	MJ	3,31E-04	6,85E-06	3,78E-02	3,81E-02	8,41E-06	1,91E-03	MND	MND	MND	MND	MND	MND	MND	MNR	3,14E-07	0,00E+00	1,09E-05	-6,62E-05
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	4,21E-02	3,29E-04	7,69E-03	5,01E-02	8,48E-04	3,42E-03	MND	MND	MND	MND	MND	MND	MND	MNR	1,45E-05	0,00E+00	1,77E-03	-1,56E-03

8) PER = Primary energy resources.

### END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	3,02E-01	4,26E-03	6,55E-02	3,72E-01	8,46E-03	9,63E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,48E-04	0,00E+00	0,00E+00	-2,40E-01
Non-hazardous waste	kg	8,71E+00	5,52E-02	5,93E-01	9,36E+00	3,32E-01	6,67E-01	MND	MND	MND	MND	MND	MND	MND	MNR	2,44E-03	0,00E+00	1,59E+00	-1,27E+00
Radioactive waste	kg	1,37E-04	2,20E-05	2,13E-05	1,81E-04	3,15E-05	1,83E-05	MND	MND	MND	MND	MND	MND	MND	MNR	7,49E-07	0,00E+00	0,00E+00	-2,92E-06

### END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	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	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	3,76E-02	3,76E-02	0,00E+00	4,68E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,27E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	1,51E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	3,41E-01	3,41E-01	0,00E+00	2,20E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00

### ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO <sub>2</sub> e	1,74E+00	2,28E-01	3,84E-01	2,35E+00	3,11E-01	3,84E-01	MND	MND	MND	MND	MND	MND	MND	MNR	7,38E-03	0,00E+00	7,83E-01	-7,21E-01
Ozone depletion Pot.	kg CFC <sub>11</sub> e	3,15E-07	3,94E-08	2,16E-08	3,76E-07	5,37E-08	4,40E-08	MND	MND	MND	MND	MND	MND	MND	MNR	1,36E-09	0,00E+00	5,63E-09	-3,55E-08
Acidification	kg SO <sub>2</sub> e	1,09E-02	3,14E-03	1,34E-03	1,54E-02	1,27E-03	1,17E-03	MND	MND	MND	MND	MND	MND	MND	MNR	2,45E-05	0,00E+00	3,37E-04	-2,43E-03
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	6,12E-03	3,97E-04	7,55E-04	7,27E-03	3,37E-04	6,38E-04	MND	MND	MND	MND	MND	MND	MND	MNR	5,58E-06	0,00E+00	4,58E-04	-1,24E-03
POCP ("smog")	kg C <sub>2</sub> H <sub>4</sub> e	1,03E-03	8,61E-05	1,55E-04	1,27E-03	1,05E-04	8,24E-05	MND	MND	MND	MND	MND	MND	MND	MNR	9,57E-07	0,00E+00	1,02E-05	-4,12E-04
ADP-elements	kg Sbe	3,74E-05	4,27E-07	1,58E-06	3,94E-05	5,82E-06	2,73E-06	MND	MND	MND	MND	MND	MND	MND	MNR	1,69E-08	0,00E+00	1,42E-07	-1,37E-05
ADP-fossil	MJ	3,27E+01	3,20E+00	8,28E+00	4,42E+01	4,68E+00	4,21E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,12E-01	0,00E+00	5,18E-01	-7,15E+00

## VERIFICATION STATEMENT

### VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

### THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Edis Glogic, as an authorized verifier acting for EPD Hub Limited  
28.05.2024

