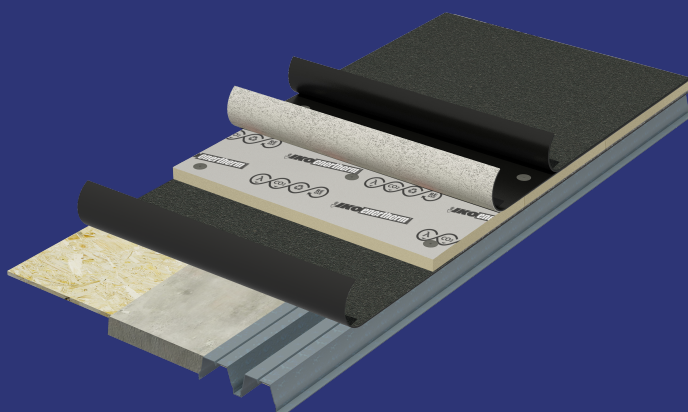




**Environmental  
Product  
Declaration**  
ISO14025+EN15804+A2

This declaration is for:  
**IKO powerflex PF5000**

Provided by:  
**IKO N.V.**



MRPI® registration:  
**00065.2026.1.0**  
Program operator:  
**Stichting MRPI**  
Publisher:  
**Stichting MRPI**  
**[www.mrpi.nl](http://www.mrpi.nl)**

Date of first issue:  
**27-07-2026**  
Date of this issue:  
**27-07-2026**  
Expiry date:  
**27-07-2031**





## COMPANY INFORMATION

IKO N.V.  
d'Herbouvillekaai 80  
BE-2020

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Belgium  
+32-32483000

<https://eu.iko.com>

## MRPI® REGISTRATION

00065.2026.1.0

## DATE OF THIS ISSUE

27-07-2026

## EXPIRY DATE

27-07-2031

## SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Vroege, Gert-Jan, Eco-Intelligence. The LCA study has been done by Simons, Steven, SGS Intron B.V.. The certificate is based on a LCA-dossier According to ISO14025+EN15804+A2. It is verified according to the 'Verification protocol for MRPI LCA project report & EPD 21th of May 2025, V. 5.2'. EPDs of construction products may not be comparable if they do not comply with EN15804+A2.

## PROGRAM OPERATOR

Stichting MRPI  
Kingsfordweg 151  
1043 GR  
Amsterdam

## PRODUCT

IKO powerflex PF5000

## DECLARED AND FUNCTIONAL UNIT

Area ( m2), Grammage (Kg/m2): 5.4, Layer thickness (m): 0.004, Mass: 5.4

## DESCRIPTION OF PRODUCT

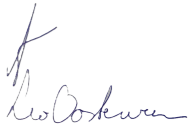
IKO powerflex PF5000 is a part of a roofing membrane system and placed on a roof as a protective layer to make the roof waterproof and protect the roof from various elements.

## VISUAL PRODUCT



## MORE INFORMATION

<https://eu.iko.com/daksystemen/>

|                                                                                     |                                                                                                      |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Ing. L. L. Oosterveen MSc. MBA</b><br><b>Managing Director MRPI</b>              | Demonstration of verification                                                                        |
|                                                                                     | CEN standard EN15804 serves as the core PCR [1]                                                      |
|  | Independent verification of the declaration and data<br>ISO14025+EN15804+A2<br>Internal: External: X |
|                                                                                     | Independent verifier: Vroege, Gert-Jan, Eco-Intelligence.<br>Certified NMD verifier.                 |
|                                                                                     |                 |
|                                                                                     | [1] PCR = Product Category Rules                                                                     |





DETAILED PRODUCT DESCRIPTION

Product: IKO powerflex PF5000 is a part of a roofing membrane system and placed on a roof as a protective layer to make the roof waterproof and protect the roof from various elements.

Production (A1-A3): Bituminous waterproofing membranes are produced by a continuous process. Raw materials (bitumen and polymers) are mixed separately at a specific range of temperature and successively reinforced with polyester fleece or glass mat (glass mat, glass grid, glass fabric) by impregnation. After calendaring and cooling, the membrane can be finished for practicality and aesthetic reasons by means of different alternative materials, such us polypropylene films, (colored) slates, etc. Membranes are installed on many different type of building roofs as waterproofing, either, as a single or multilayer, depending on the type of selected product.

Reference service life: 50 years

| Component (> 1%) | (kg / %)     |
|------------------|--------------|
| Coating          | Confidential |
| Bitumen          | Confidential |
| Polyester resin  | Confidential |
| Sand             | Confidential |

| Biogenic carbon content                                               | Unit | Amount of uptake per functional unit |
|-----------------------------------------------------------------------|------|--------------------------------------|
| Biogenic carbon content in product                                    | Kg C | 0.00E+00                             |
| Biogenic carbon content in accompanying packaging                     | Kg C | 1,93E-02                             |
| Note that 1 kg of biogenic carbon is equivalent to 44 / 12 kg of CO2. |      |                                      |

SCOPE AND TYPE

The life cycle assessment underlying this EPD was conducted using the background database(s) Ecoinvent 3.9.1

Method: Cut-off, EN 15804+A2

and LCA software Simapro 10.2.

Version characterization factors: Environmental Footprint (EF) 3.1

The LCA for the IKO powerflex PF5000 includes the entire life cycle. All major steps from the extraction of raw materials to the end-of-life of the product are included in the scope of the study. This EPD is for IKO powerflex PF5000, part of a roofing membrane. The roofing membrane is produced by IKO n.v.. The main production location is Antwerpen Belgium. The end-of-life scenario for the roofing membrane is according to NBN EN 17388-1:2024 Flexible sheets for waterproofing - Environmental product declarations - Product category rules for reinforced bitumen. The 100% scenario's of recycling, incineration and landfill have been calculated. The LCA is produced with SimaPro v10.2 software and background database is Ecolnvent 3.9.1.



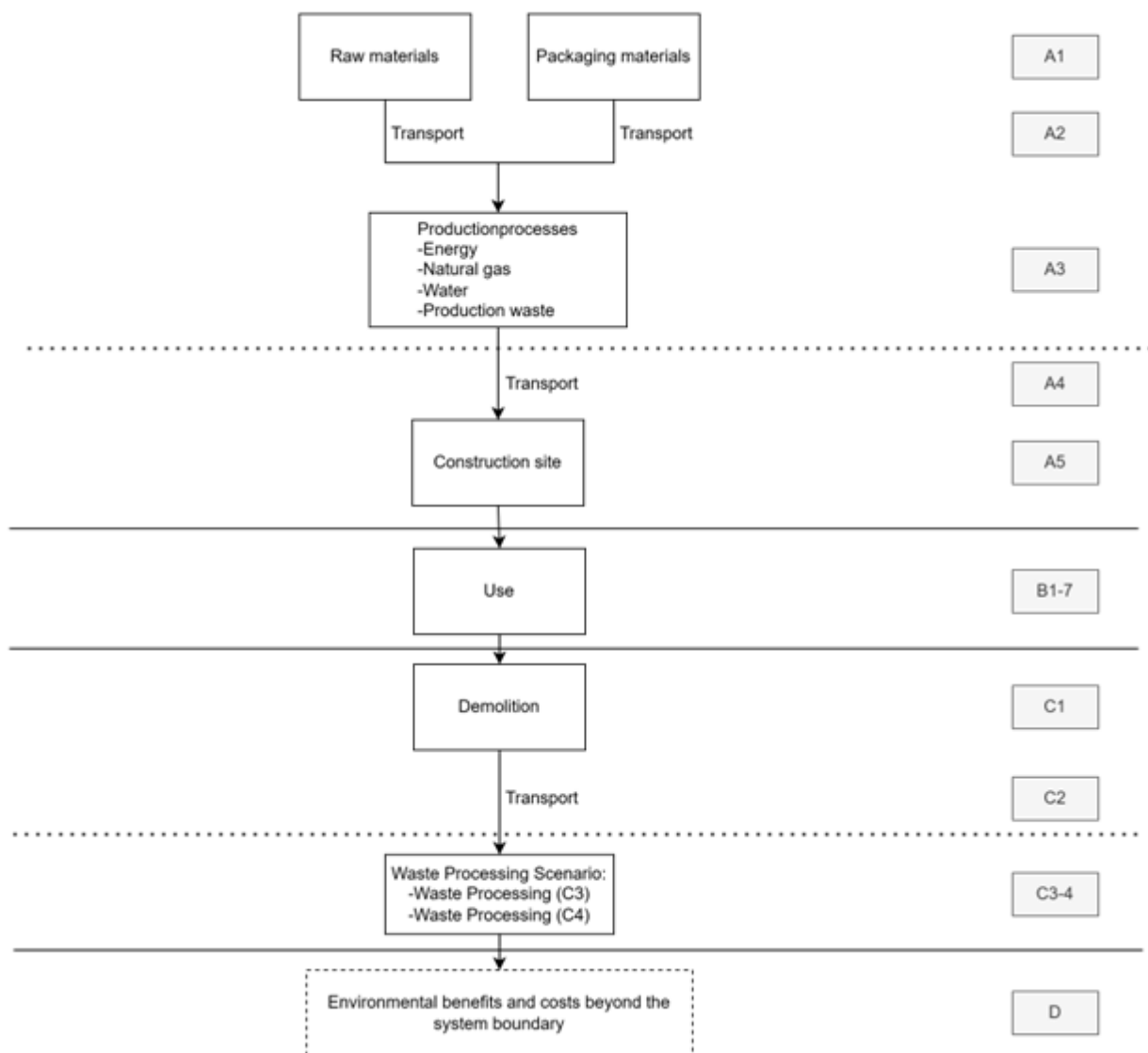


| PRODUCT STAGE       |           |               | CONSTRUCTION PROCESS STAGE |          | USE STAGE |             |        |             |               |                        |                       | END OF LIFE STAGE          |           |                  |          | BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES |
|---------------------|-----------|---------------|----------------------------|----------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|-------------------------------------------------|
| Raw material supply | Transport | Manufacturing | Transport gate to 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          | B5            | B6                     | B7                    | C1                         | C2        | C3               | C4       | D                                               |
| x                   | x         | x             | x                          | x        | x         | x           | x      | x           | x             | ND                     | ND                    | x                          | x         | x                | x        | x                                               |

X
ND

= Modules Assesed  
= Not Declared







## ENVIRONMENTAL IMPACT PER FUNCTIONAL UNIT OR DECLARED UNIT (CORE INDICATORS A2)

| Unit                             |                         | A1        | A2       | A3       | A1-A3     | A4       | A5       | B1       | B2       | B3       | B4       | B5       | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|----------------------------------|-------------------------|-----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----|----|----------|----------|----------|----------|-----------|
| <b>GWP-total</b>                 | kg CO2 eq               | 2.58E+00  | 2.73E-01 | 3.62E-01 | 3.22E+00  | 1.07E-01 | 5.14E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 1.04E-01 | 2.41E+00 | 0.00E+00 | -1.68E+00 |
| <b>GWP-fossil</b>                | kg CO2 eq               | 2.80E+00  | 2.72E-01 | 3.62E-01 | 3.43E+00  | 1.07E-01 | 2.60E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 1.04E-01 | 2.40E+00 | 0.00E+00 | -1.68E+00 |
| <b>GWP-biogenic</b>              | kg CO2 eq               | -2.23E-01 | 8.82E-05 | 2.79E-04 | -2.22E-01 | 2.83E-05 | 2.54E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 2.74E-05 | 2.87E-03 | 0.00E+00 | -5.91E-04 |
| <b>GWP-luluc</b>                 | kg CO2 eq               | 5.10E-03  | 9.60E-04 | 6.62E-05 | 6.13E-03  | 2.37E-04 | 2.55E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 2.30E-04 | 1.47E-03 | 0.00E+00 | -4.83E-04 |
| <b>ODP (A2)</b>                  | kg CFC11 eq             | 1.79E-07  | 4.83E-09 | 1.64E-08 | 2.00E-07  | 1.77E-09 | 8.98E-09 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 1.71E-09 | 3.74E-08 | 0.00E+00 | -1.29E-07 |
| <b>AP mol H+</b>                 | mol H+ eq               | 1.43E-02  | 1.38E-03 | 5.62E-04 | 1.62E-02  | 1.80E-03 | 9.49E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 1.75E-03 | 7.02E-03 | 0.00E+00 | -7.35E-03 |
| <b>EP-freshwater</b>             | kg P eq                 | 1.08E-04  | 2.69E-06 | 2.36E-06 | 1.13E-04  | 7.55E-07 | 5.33E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 7.33E-07 | 4.24E-05 | 0.00E+00 | -1.22E-05 |
| <b>EP-marine</b>                 | kg N eq                 | 3.04E-03  | 5.13E-04 | 1.36E-04 | 3.69E-03  | 4.85E-04 | 2.50E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 4.71E-04 | 1.86E-03 | 0.00E+00 | -1.47E-03 |
| <b>EP-terrestrial</b>            | mol N eq                | 3.13E-02  | 5.49E-03 | 1.53E-03 | 3.83E-02  | 5.33E-03 | 2.66E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 5.17E-03 | 2.03E-02 | 0.00E+00 | -1.35E-02 |
| <b>POCP kg NMVOC</b>             | kg NMVOC eq             | 2.38E-02  | 1.85E-03 | 7.35E-04 | 2.64E-02  | 1.52E-03 | 1.35E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 1.47E-03 | 7.46E-03 | 0.00E+00 | -1.60E-02 |
| <b>ADP-minerals &amp; metals</b> | kg Sb eq                | 1.30E-05  | 8.45E-07 | 1.67E-06 | 1.55E-05  | 2.23E-07 | 1.10E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 2.17E-07 | 1.52E-05 | 0.00E+00 | -2.36E-06 |
| <b>ADP-fossil</b>                | MJ, net calorific value | 1.25E+02  | 3.89E+00 | 7.74E+00 | 1.37E+02  | 1.43E+00 | 6.30E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 1.38E+00 | 3.84E+01 | 0.00E+00 | -9.37E+01 |
| <b>WDP</b>                       | m3 world eq. Deprived   | 7.17E-01  | 2.11E-02 | 7.14E-02 | 8.09E-01  | 5.75E-03 | 4.65E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 5.58E-03 | 4.43E-01 | 0.00E+00 | -1.59E-01 |

GWP-total = Global Warming Potential total  
 GWP-fossil = Global Warming Potential fossil fuels  
 GWP-biogenic = Global Warming Potential biogenictotal  
 GWP-LULUC = Global Warming Potential land use and land use change  
 ODP = Depletion potential of the stratospheric ozone layer  
 AP = Acidification Potential, Accumulated Exceedence  
 AP-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 Exceedence  
 POCP = Formation potential of tropospheric ozone photochemical oxidants  
 ADP-minerals & metals = Abiotic Depletion Potential for non-fossil resources [1]  
 ADP-fossil = Abiotic Depletion for fossil resources potential [1]  
 WDP = Water (user) deprivation potential, deprivation-weighted water consumption [1]

Disclaimer [1]:

- 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 experience with the indicator.





## ENVIRONMENTAL IMPACT PER FUNCTIONAL UNIT OR DECLARED UNIT (ADDITIONAL INDICATORS A2)

| Unit   |                   | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1       | B2       | B3       | B4       | B5       | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|--------|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----------|----------|----------|----------|-----------|
| PM     | Disease incidence | 1.33E-07 | 2.66E-08 | 3.58E-09 | 1.63E-07 | 6.97E-09 | 1.14E-08 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 6.77E-09 | 1.22E-07 | 0.00E+00 | -5.37E-08 |
| IRP    | kBq U235 eq       | 5.09E-02 | 1.51E-03 | 4.22E-02 | 9.46E-02 | 4.41E-04 | 1.04E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 4.28E-04 | 2.39E-01 | 0.00E+00 | -1.18E-02 |
| ETP-fw | CTUe              | 6.07E+01 | 2.86E+00 | 5.47E-01 | 6.41E+01 | 8.97E-01 | 2.69E+00 | 1.82E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 8.71E-01 | 9.69E+00 | 0.00E+00 | -4.27E+01 |
| HTP-c  | CTUh              | 1.48E-09 | 1.44E-10 | 9.56E-11 | 1.72E-09 | 5.16E-11 | 1.65E-10 | 1.00E-13 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 5.01E-11 | 2.25E-09 | 0.00E+00 | -6.05E-10 |
| HTP-nc | CTUh              | 2.72E-08 | 3.10E-09 | 2.22E-09 | 3.26E-08 | 8.19E-10 | 2.67E-09 | 3.45E-10 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 7.95E-10 | 2.69E-08 | 0.00E+00 | -1.17E-08 |
| SQP    | -                 | 2.21E+01 | 3.04E+00 | 8.49E-01 | 2.60E+01 | 6.72E-01 | 1.42E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 6.53E-01 | 1.82E+01 | 0.00E+00 | -5.12E+00 |

- PM = Potential Comparative Toxic Unit for humans, non-cancer [2]  
 IRP = Potential incidence of disease due to PM emissions  
 ETP-fw = Potential Human exposure efficiency relative to U235 [1]  
 HTP-c = Potential Comparative Toxic Unit for ecosystems [2]  
 HTP-nc = Potential Comparative Toxic Unit for humans, cancer [2]  
 SQP = Potential soil quality index [2]

### Disclaimer [1]:

- This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste.

### Disclaimer [2]:

- 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 experience with the indicator.





OUTPUT FLOWS AND WASTE CATEGORIES PER FUNCTIONAL OR DECLARED UNIT (A1 AND A2)

| Unit |    | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1       | B2       | B3       | B4       | B5       | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|------|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----------|----------|----------|----------|-----------|
| HWD  | kg | 1.28E-03 | 2.47E-05 | 2.50E-05 | 1.33E-03 | 8.19E-06 | 4.80E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 7.95E-06 | 1.05E-04 | 0.00E+00 | -4.21E-04 |
| NHWD | kg | 3.65E-01 | 2.54E-01 | 1.09E-01 | 7.29E-01 | 5.40E-02 | 6.22E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 5.24E-02 | 1.05E+00 | 0.00E+00 | -6.90E-02 |
| RWD  | kg | 3.43E-05 | 8.85E-07 | 3.43E-05 | 6.95E-05 | 2.51E-07 | 8.13E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 2.43E-07 | 1.93E-04 | 0.00E+00 | -5.26E-06 |
| 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 | ND | ND | 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 | 1.62E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 0.00E+00 | 5.40E+00 | 0.00E+00 | 0.00E+00  |
| MER  | 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 | ND | ND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| EEE  | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.12E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| ETE  | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.81E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |

- HWD

NHWD

RWD

CRU

MFR

MER

EEE

ETE
- = Hazardous Waste Disposed

= Non Hazardous Waste Disposed

= Radioactive Waste Disposed

= Components for reuse

= Materials for recycling

= Materials for energy recovery

= Exported Electrical Energy

= Exported Thermal Energy





# RESOURCE USE PER FUNCTIONAL OR DECLARED UNIT (A1 AND A2)

| Unit  |    | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1       | B2       | B3       | B4       | B5       | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|-------|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----------|----------|----------|----------|-----------|
| PERE  | MJ | 3.33E+00 | 5.47E-02 | 3.01E-01 | 3.68E+00 | 1.57E-02 | 2.00E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 1.52E-02 | 2.43E+00 | 0.00E+00 | -2.46E-01 |
| PERM  | MJ | 2.70E+00 | 0.00E+00 | 0.00E+00 | 2.70E+00 | 0.00E+00 | 8.11E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| PERT  | MJ | 6.03E+00 | 5.47E-02 | 3.01E-01 | 6.39E+00 | 1.57E-02 | 2.81E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 1.52E-02 | 2.43E+00 | 0.00E+00 | -2.46E-01 |
| PENRE | MJ | 1.25E+02 | 3.90E+00 | 7.74E+00 | 1.37E+02 | 1.43E+00 | 6.30E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 1.38E+00 | 3.84E+01 | 0.00E+00 | -9.37E+01 |
| PENRM | MJ | 1.83E-02 | 0.00E+00 | 0.00E+00 | 1.83E-02 | 0.00E+00 | 5.49E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| PENRT | MJ | 1.25E+02 | 3.90E+00 | 7.74E+00 | 1.37E+02 | 1.43E+00 | 6.30E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 1.38E+00 | 3.84E+01 | 0.00E+00 | -9.37E+01 |
| SM    | kg | 2.24E-01 | 0.00E+00 | 0.00E+00 | 2.24E-01 | 0.00E+00 | 6.71E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| RSF   | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| NSRF  | 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 | ND | ND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| FW    | m3 | 2.18E-02 | 9.34E-04 | 1.75E-03 | 2.45E-02 | 2.42E-04 | 1.40E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | ND | ND | 0.00E+00 | 2.35E-04 | 1.21E-02 | 0.00E+00 | -5.78E-03 |

- PERE = Use of renewable primary energy excluding renewable primary energy 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 resources excluding non-renewable 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 materials
- RSF = Use of renewable secondary fuels
- NSRF = Use of non-renewable secondary fuels
- FW = Use of net fresh water





## CALCULATION RULES

Data quality requirements follow EN15804+A2:2019. Data is of reference period 2023, representing data for the production of one m2 IKO powerflex PF5000. Processes used in the background modelling are referring to Ecoinvent 3.9.1 (December 15, 2022). Characterization factor: Environmental Footprint 3.1. The technological and geographical coverage reflects the physical reality as far as possible. Data quality is assessed as good on average and adequate to the goal and scope of the study. Cut-off criteria and allocation procedures: The only materials excluded from the calculation were wood packaging that is reused several times. No other cut-offs or allocation procedures were intentionally applied to inputs and outputs within the system boundaries in the models.

## DATA QUALITY REPRESENTATIVENESS

| Representativeness              | Quality level | Remarks                                                                       |
|---------------------------------|---------------|-------------------------------------------------------------------------------|
| Geographical Representativeness | Very good     | The location of the process has a direct relation to the desired area.        |
| Technical Representativeness    | Very good     | Data from a specific company, process and product of study.                   |
| Time Representativeness         | Good          | 2-5 year difference between the year of data collection and the current year. |

## POWER MIX

The energy processes used in the calculation are listed in the table below. The process used for the energy in Belgium was: Electricity, low voltage {BE}| electricity, low voltage, residual mix | Cut-off, U. This is a market based approach.

| Global warming potential of 1 kWh energy | Process                                                                            | kg CO2eq |
|------------------------------------------|------------------------------------------------------------------------------------|----------|
| Production energy: Belgium               | Electricity, low voltage {BE}  electricity, low voltage, residual mix   Cut-off, U | 0.203    |





## SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

The product stage, A1-A3, includes the extraction and processing of raw materials for the product and the packaging, their transportation to the production site by truck and ship. Electricity consumption is modelled using primary data on the amount and a dataset for normal belgium grid mix.

The installation stage (A4-A5) includes transport of the roofing membrane to the installation site, and the materials and energy required to install the roofing membrane, also including treatment of waste from installation materials and packaging excluding wood that was reused several times.

The use phase (B) includes the leaching.

The end-of-life stage (C) is 100% recycling or incineration or landfill. Default waste transport distance is 50 km for waste processing, an additional 50 km for landfill waste and 100 km for incineration.

The tables below show the results of 100% incineration and landfill.

| 100% Incineration   | Unit         | C2       | C3       | C4       | D         |
|---------------------|--------------|----------|----------|----------|-----------|
| GWP-total           | kg CO2 eq    | 1,21E-01 | 1,26E+01 | 0,00E+00 | -6,50E+00 |
| GWP-fossil          | kg CO2 eq    | 1,20E-01 | 1,26E+01 | 0,00E+00 | -6,50E+00 |
| GWP-biogenic        | kg CO2 eq    | 3,92E-05 | 2,24E-04 | 0,00E+00 | -6,04E-04 |
| GWP-luluc           | kg CO2 eq    | 4,29E-04 | 1,44E-04 | 0,00E+00 | -4,56E-04 |
| ODP_A2              | kg CFC11 eq  | 2,14E-09 | 3,92E-08 | 0,00E+00 | -3,44E-07 |
| AP_A2               | mol H+ eq    | 5,76E-04 | 3,27E-03 | 0,00E+00 | -4,26E-03 |
| EP-freshwater       | kg P eq      | 1,20E-06 | 5,07E-06 | 0,00E+00 | -1,18E-05 |
| EP-marine           | kg N eq      | 2,19E-04 | 1,10E-03 | 0,00E+00 | -1,62E-03 |
| EP-terrestrial      | mol N eq     | 2,33E-03 | 1,22E-02 | 0,00E+00 | -1,78E-02 |
| POCP_A2             | kg NMVOC eq  | 7,97E-04 | 3,32E-03 | 0,00E+00 | -9,65E-03 |
| ADP-minerals&metals | kg Sb eq     | 3,77E-07 | 7,47E-07 | 0,00E+00 | -1,58E-06 |
| ADP-fossil          | MJ           | 1,72E+00 | 1,81E+00 | 0,00E+00 | -1,01E+02 |
| WDP                 | m3 depriv.   | 9,40E-03 | 7,66E-02 | 0,00E+00 | -4,98E-01 |
| PM                  | disease inc. | 1,19E-08 | 2,44E-08 | 0,00E+00 | -2,14E-08 |
| IRP                 | kBq U-235 eq | 6,72E-04 | 4,33E-03 | 0,00E+00 | -9,16E-03 |
| ETP-fw              | CTUe         | 1,27E+00 | 1,84E+00 | 0,00E+00 | -2,73E+00 |
| HTP-c               | CTUh         | 6,37E-11 | 1,74E-09 | 0,00E+00 | -7,63E-10 |
| HTP-nc              | CTUh         | 1,38E-09 | 7,45E-09 | 0,00E+00 | -6,72E-09 |
| SQP                 | Pt           | 1,36E+00 | 1,14E+00 | 0,00E+00 | -1,11E+00 |
| PERE                | MJ           | 2,43E-02 | 1,50E-01 | 0,00E+00 | -3,70E-01 |
| PERM                | MJ           | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| PERT                | MJ           | 2,43E-02 | 1,50E-01 | 0,00E+00 | -3,70E-01 |
| PENRE               | MJ           | 1,72E+00 | 1,81E+00 | 0,00E+00 | -1,01E+02 |
| PENRM               | MJ           | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| PENRT               | MJ           | 1,72E+00 | 1,81E+00 | 0,00E+00 | -1,01E+02 |
| SM                  | kg           | 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  |
| NRSF                | MJ           | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| FW                  | m3           | 4,16E-04 | 4,67E-03 | 0,00E+00 | -7,67E-03 |
| HWD                 | kg           | 1,10E-05 | 7,46E-06 | 0,00E+00 | -4,31E-04 |
| NHWD                | kg           | 1,14E-01 | 3,13E-01 | 0,00E+00 | -1,14E-01 |
| RWD                 | kg           | 3,94E-07 | 2,94E-06 | 0,00E+00 | -6,44E-06 |
| CRU                 | kg           | 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  |
| MER                 | kg           | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| EEE                 | MJ           | 0,00E+00 | 2,57E+01 | 0,00E+00 | 0,00E+00  |





|     |    |          |          |          |          |
|-----|----|----------|----------|----------|----------|
| ETE | MJ | 0,00E+00 | 4,43E+01 | 0,00E+00 | 0,00E+00 |
|-----|----|----------|----------|----------|----------|

| 100% Landfill       | Unit         | C2       | C3       | C4       | D         |
|---------------------|--------------|----------|----------|----------|-----------|
| GWP-total           | kg CO2 eq    | 8,05E-02 | 0,00E+00 | 6,95E-01 | -1,23E-01 |
| GWP-fossil          | kg CO2 eq    | 8,01E-02 | 0,00E+00 | 6,95E-01 | -1,23E-01 |
| GWP-biogenic        | kg CO2 eq    | 2,61E-05 | 0,00E+00 | 1,87E-04 | -1,14E-05 |
| GWP-luluc           | kg CO2 eq    | 2,86E-04 | 0,00E+00 | 4,97E-05 | -8,64E-06 |
| ODP_A2              | kg CFC11 eq  | 1,43E-09 | 0,00E+00 | 1,52E-09 | -6,51E-09 |
| AP_A2               | mol H+ eq    | 3,84E-04 | 0,00E+00 | 8,35E-04 | -8,06E-05 |
| EP-freshwater       | kg P eq      | 7,97E-07 | 0,00E+00 | 1,06E-06 | -2,24E-07 |
| EP-marine           | kg N eq      | 1,46E-04 | 0,00E+00 | 6,95E-04 | -3,06E-05 |
| EP-terrestrial      | mol N eq     | 1,56E-03 | 0,00E+00 | 1,85E-03 | -3,36E-04 |
| POCP_A2             | kg NMVOC eq  | 5,31E-04 | 0,00E+00 | 8,17E-04 | -1,83E-04 |
| ADP-minerals&metals | kg Sb eq     | 2,51E-07 | 0,00E+00 | 1,45E-07 | -3,00E-08 |
| ADP-fossil          | MJ           | 1,15E+00 | 0,00E+00 | 1,40E+00 | -1,91E+00 |
| WDP                 | m3 depriv.   | 6,27E-03 | 0,00E+00 | 5,84E-02 | -9,43E-03 |
| PM                  | disease inc. | 7,91E-09 | 0,00E+00 | 9,99E-09 | -4,05E-10 |
| IRP                 | kBq U-235 eq | 4,48E-04 | 0,00E+00 | 1,00E-03 | -1,73E-04 |
| ETP-fw              | CTUe         | 8,47E-01 | 0,00E+00 | 1,44E+00 | -5,16E-02 |
| HTP-c               | CTUh         | 4,25E-11 | 0,00E+00 | 3,88E-11 | -1,44E-11 |
| HTP-nc              | CTUh         | 9,22E-10 | 0,00E+00 | 1,27E-09 | -1,27E-10 |
| SQP                 | Pt           | 9,06E-01 | 0,00E+00 | 3,14E+00 | -2,11E-02 |
| PERE                | MJ           | 1,62E-02 | 0,00E+00 | 3,08E-02 | -7,00E-03 |
| PERM                | MJ           | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| PERT                | MJ           | 1,62E-02 | 0,00E+00 | 3,08E-02 | -7,00E-03 |
| PENRE               | MJ           | 1,15E+00 | 0,00E+00 | 1,40E+00 | -1,91E+00 |
| PENRM               | MJ           | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| PENRT               | MJ           | 1,15E+00 | 0,00E+00 | 1,40E+00 | -1,91E+00 |
| SM                  | kg           | 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  |
| NRSF                | MJ           | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| FW                  | m3           | 2,77E-04 | 0,00E+00 | 1,44E-03 | -1,45E-04 |
| HWD                 | kg           | 7,32E-06 | 0,00E+00 | 6,88E-06 | -8,16E-06 |
| NHWD                | kg           | 7,59E-02 | 0,00E+00 | 5,41E+00 | -2,15E-03 |
| RWD                 | kg           | 2,63E-07 | 0,00E+00 | 6,72E-07 | -1,22E-07 |
| CRU                 | kg           | 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  |
| MER                 | kg           | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| EEE                 | MJ           | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| ETE                 | MJ           | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |

## DECLARATION OF SVHC

No substances that are listed in the latest "Candidate List of Substances of Very High Concern for authorisation" are included in the product that exceed the limit for registration.

## REFERENCES

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

ISO, ISO 14025:2006 Environmental labels and declarations — Type III environmental declarations — Principles and procedures, 2006.





NBN EN 17388-1:2024 Flexible sheets for waterproofing - Environmental product declarations - Product category rules for reinforced bitumen, 2024.

SGS INTRON report: A170430/R20261127, July 2026

