

# Environmental Product Declaration

*according to ISO 14025 and EN 15804*



This declaration is for:

**Alpha Sectional doors ISO, with wicket door**

Provided by:

**Novoferm Nederland Holding B.V.**



**alpha**<sup>®</sup>

deuren international



program operator

**Stichting MRPI<sup>®</sup>**

publisher

**Stichting MRPI<sup>®</sup>**

**[www.mrpi.nl](http://www.mrpi.nl)**

MRPI<sup>®</sup> registration

**1.1.00361.2022**

date of first issue

**23-12-2022**

date of this issue

**23-12-2022**

expiry date

**23-12-2027**





### COMPANY INFORMATION



### Intelligent Door Solutions

Novoferm Nederland Holding B.V.  
Bedrijvenpark Twente 187  
7602 KG  
Almelo  
31 (0) 88 888 8400  
sustainability@novoferm.com  
www.alpha-deuren.nl

### PRODUCT

Alpha Sectional doors ISO, with wicket door

### DECLARED UNIT/FUNCTIONAL UNIT

1 m2

### DESCRIPTION OF PRODUCT

ISO 40/60 with wicket door is a sectional door with heat-insulating and sound-absorbing properties, constructed from PUR foam-insulated steel sandwich panels.

### VISUAL PRODUCT



### MORE INFORMATION

<https://www.alpha-deuren.nl/en/category/industrial-doors/>

### MRPI® REGISTRATION

1.1.00361.2022

### DATE OF ISSUE

23-12-2022

### EXPIRY DATE

23-12-2027

### SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by **Gert-Jan Vroege, Eco Intelligence**.

The LCA study has been done by **Mariëlle van Elderen and Branco Schipper, SGS Search**.

The certificate is based on an LCA-dossier according to ISO14025 and EN15804+A2/Bepalingsmethode. It is verified according to the 'MRPI®-EPD verification protocol November 2020.v4.0'. EPDs of construction products may not be comparable if they do not comply with EN15804+A2/Bepalingsmethode. Declaration of SVHC that are listed on the 'Candidate List of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.

### PROGRAM OPERATOR

Stichting MRPI®  
Kingsfordweg 151  
1043GR  
Amsterdam



ir. J-P den Hollander, Managing director MRPI®

### DEMONSTRATION OF VERIFICATION

CEN standard EN15804 serves as the core PCR[a]

Independent verification of the declaration and data,

according to EN ISO 14025:2010:

internal: external: X

Third party verifier:



Gert-Jan Vroege, Eco Intelligence

[a] PCR = Product Category Rules

## DETAILED PRODUCT DESCRIPTION

Alpha industrial sectional doors are used in private homes, agricultural buildings, industrial buildings and non-residential buildings. The spacesaving industrial sectional door can be fitted to both outdoor and indoor walls.

Sectional doors, type ISO, are constructed from PUR (polyurethane) foam-insulated (CFC-free) steel sandwich panels. The panels are 40, 60 or 80 mm thick. The ISO panels are finished in a standard coil coat colour or can be painted in a RAL colour chosen by the customer. This option is covered in this EPD.

The ISO panels can be combined with ALU sections, assembled from anodised aluminium profiles.

When the door is opened, the sections slide back under the roof. The industrial sectional door can be operated manually by pull cord or chain hoist, or supplied with an electric drive. This option is covered in this EPD. The energy use of the motor is not included in the EPD. The energy use is estimated at 0,309 Wh/m<sup>2</sup> per opening/closing cycle. At 3,000 yearly cycles this would amount to 0,927 kWh/m<sup>2</sup>.

The ISO 40 and ISO 60 sectional door can be supplied with an integral wicket door or a pass door next to the sectional door. This option is covered in this EPD.

Sectional doors, type ISO, have an expected service life of more than 100.000 cycles, which complies for 10 years of standard daily use and with a recommended yearly service check. The specified service life is independent of the manufacturer's warranty.

Technical details based on a sectional door ISO for an opening of 3800 x 3500 mm (W x H). These dimensions for the standard door are chosen based on frequency of sale. The presented data comply with those given in the DoP. The different values have been tested by TÜV Nord. The industrial sectional doors comply with EN 13241:2003+A2:2016 (products without smoke control and fire resistant characteristics).

| Name   | ISO 40 | ISO 60 | Unit    |
|--|--------|--------|---------|
| Airborne sound reduction acc. to EN 717-1  | 25     | 25     | dB      |
| Heat transfer coefficient Wondows / Doors acc. DIN EN 10077-1,-2 or DIN EN ISO 12567 | 1.72   | 1.31   | W/(m2K) |
| Air permeability acc. EN 12426   | 1      | 1      | class   |
| Resistance to water penetration acc. to EN 12425                                     | 1      | 1      | class   |
| Deflection as a result of wind loads acc. to EN 12424                                | 3      | 3      | class   |

| COMPONENT > 1% of total mass                  | [%]        |
|---|------------|
| Panels - Steel / PUR                          | 38% - 40%  |
| Steel, galvanized                             | 24% - 28%  |
| Steel, coated                                 | 5,5% - 6%  |
| Aluminium                                     | 7,5% - 10% |
| Packaging (pallet / cardboard / paper / film) | 13% - 14%  |
| EPDM  | 1,5% - 2%  |
| PVC   | <1%        |
| Polystyrene                                   | <1%        |
| Electronics (motor)                           | 4% - 5%    |

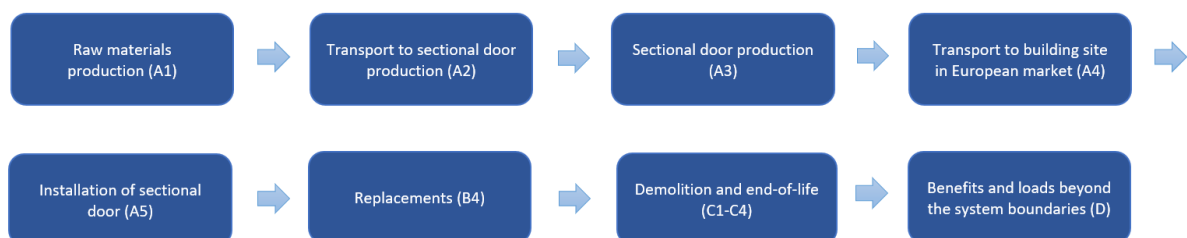
### SCOPE AND TYPE

Sectional doors are assembled in the Netherlands and sold on the European market. The type of EPD is Cradle-to-grave in which all modules are included. SimaPro 9.3 was used to perform the LCA calculations. The data used in the module is sourced from Ecoinvent 3.6 and the NMD basisprocessendatabase 3.5. The results are calculated with the exclusion of long-term emissions.

| PRODUCT STAGE       | CONSTRUCTION |               |                        |          |     |             |        |             |               |                        |                       |                 | USE STAGE  |           |                  |          | END OF LIFE                        |  |  |  | BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES |
|---------------------|--------------|---------------|------------------------|----------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-----------------|------------|-----------|------------------|----------|------------------------------------|--|--|--|---|
|                     | PROCESS      |               |                        |          |     |             |        |             |               |                        |                       |                 | STAGE      |           |                  |          |                                    |  |  |  |   |
|                     | STAGE        |               |                        |          |     |             |        |             |               |                        |                       |                 |            |           |                  |          |                                    |  |  |  |   |
| 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             | X                      | X                     | X               | X          | X         | X                | X        | X                                  |  |  |  |   |

X = Modules Assessed

ND = Not Declared



LCA process diagram according to EN 15804 (7.2.1)

## REPRESENTATIVENESS

This EPD is representative for sectional doors, type ISO with wicket door, produced by Alpha Deuren in The Netherlands for use in the European market.

## ENVIRONMENTAL IMPACT per functional unit or declared unit (indicators A1)

|      | UNIT           | A1   | A2   | A3   | A1-A3       | A4          | A5          | B1   | B2   | B3   | B4          | B5   | B6   | B7   | C1          | C2          | C3          | C4          | D            |
|------|----------------|------|------|------|-------------|-------------|-------------|------|------|------|-------------|------|------|------|-------------|-------------|-------------|-------------|--------------|
| ADPE | kg Sb eq.      | 0.00 | 0.00 | 0.00 | 1.83<br>E-1 | 1.45<br>E-5 | 3.35<br>E-6 | 0.00 | 0.00 | 0.00 | 4.29<br>E-4 | 0.00 | 0.00 | 0.00 | 9.85<br>E-7 | 4.84<br>E-6 | 3.20<br>E-5 | 6.83<br>E-8 | -1.81<br>E-2 |
| ADPF | MJ             | 0.00 | 0.00 | 0.00 | 1.95<br>E+3 | 8.68<br>E+0 | 5.50<br>E+0 | 0.00 | 0.00 | 0.00 | 4.59<br>E+0 | 0.00 | 0.00 | 0.00 | 3.77<br>E+0 | 2.89<br>E+0 | 1.68<br>E+1 | 1.89<br>E-1 | -8.54<br>E+2 |
| GWP  | kg CO2 eq.     | 0.00 | 0.00 | 0.00 | 1.29<br>E+2 | 5.68<br>E-1 | 1.07<br>E+0 | 0.00 | 0.00 | 0.00 | 3.19<br>E-1 | 0.00 | 0.00 | 0.00 | 2.41<br>E-1 | 1.89<br>E-1 | 6.49<br>E+0 | 7.71<br>E-3 | -5.69<br>E+1 |
| ODP  | kg CFC11 eq.   | 0.00 | 0.00 | 0.00 | 1.02<br>E-5 | 1.01<br>E-7 | 3.10<br>E-8 | 0.00 | 0.00 | 0.00 | 1.99<br>E-8 | 0.00 | 0.00 | 0.00 | 1.19<br>E-8 | 3.36<br>E-8 | 6.94<br>E-8 | 1.98<br>E-9 | -3.22<br>E-6 |
| POCP | kg ethene eq.  | 0.00 | 0.00 | 0.00 | 1.20<br>E-1 | 3.43<br>E-4 | 2.73<br>E-4 | 0.00 | 0.00 | 0.00 | 4.58<br>E-4 | 0.00 | 0.00 | 0.00 | 3.59<br>E-5 | 1.14<br>E-4 | 3.30<br>E-4 | 7.22<br>E-6 | -7.08<br>E-2 |
| AP   | kg SO2 eq.     | 0.00 | 0.00 | 0.00 | 1.26<br>E+0 | 2.50<br>E-3 | 1.24<br>E-3 | 0.00 | 0.00 | 0.00 | 2.68<br>E-3 | 0.00 | 0.00 | 0.00 | 4.52<br>E-4 | 8.32<br>E-4 | 7.32<br>E-3 | 5.19<br>E-5 | -2.62<br>E-1 |
| EP   | kg (PO4)3- eq. | 0.00 | 0.00 | 0.00 | 2.14<br>E-1 | 4.90<br>E-4 | 3.30<br>E-4 | 0.00 | 0.00 | 0.00 | 4.80<br>E-4 | 0.00 | 0.00 | 0.00 | 9.29<br>E-5 | 1.64<br>E-4 | 1.79<br>E-3 | 9.18<br>E-6 | -3.25<br>E-2 |

### Toxicity indicators for Dutch market

|       |            |      |      |      |             |             |             |      |      |      |             |      |      |      |             |             |             |             |              |
|-------|------------|------|------|------|-------------|-------------|-------------|------|------|------|-------------|------|------|------|-------------|-------------|-------------|-------------|--------------|
| HTP   | kg DCB eq. | 0.00 | 0.00 | 0.00 | 9.37<br>E+1 | 2.39<br>E-1 | 1.54<br>E+0 | 0.00 | 0.00 | 0.00 | 1.91<br>E-1 | 0.00 | 0.00 | 0.00 | 2.71<br>E-2 | 7.97<br>E-2 | 8.87<br>E-1 | 3.29<br>E-3 | -5.04<br>E+1 |
| FAETP | kg DCB eq. | 0.00 | 0.00 | 0.00 | 2.66<br>E+0 | 6.98<br>E-3 | 1.02<br>E-2 | 0.00 | 0.00 | 0.00 | 3.21<br>E-3 | 0.00 | 0.00 | 0.00 | 7.48<br>E-4 | 2.33<br>E-3 | 2.78<br>E-2 | 8.65<br>E-5 | -7.81<br>E-1 |
| MAETP | kg DCB eq. | 0.00 | 0.00 | 0.00 | 7.02<br>E+3 | 2.51<br>E+1 | 3.57<br>E+1 | 0.00 | 0.00 | 0.00 | 8.20<br>E+0 | 0.00 | 0.00 | 0.00 | 3.16<br>E+0 | 8.37<br>E+0 | 1.12<br>E+2 | 2.76<br>E-1 | -1.46<br>E+3 |
| TETP  | kg DCB eq. | 0.00 | 0.00 | 0.00 | 4.11<br>E-1 | 8.45<br>E-4 | 2.23<br>E-3 | 0.00 | 0.00 | 0.00 | 5.99<br>E-4 | 0.00 | 0.00 | 0.00 | 1.23<br>E-3 | 2.82<br>E-4 | 4.57<br>E-3 | 1.07<br>E-5 | 7.78<br>E-1  |
| ECI   | Euro       | 0.00 | 0.00 | 0.00 | 2.31<br>E+1 | 6.84<br>E-2 | 2.05<br>E-1 | 0.00 | 0.00 | 0.00 | 5.05<br>E-2 | 0.00 | 0.00 | 0.00 | 1.79<br>E-2 | 2.28<br>E-2 | 4.64<br>E-1 | 1.03<br>E-3 | -9.05<br>E+0 |
| ADPF  | kg Sb. eq. | 0.00 | 0.00 | 0.00 | 9.37<br>E-1 | 4.17<br>E-3 | 2.65<br>E-3 | 0.00 | 0.00 | 0.00 | 2.21<br>E-3 | 0.00 | 0.00 | 0.00 | 1.81<br>E-3 | 1.39<br>E-3 | 8.06<br>E-3 | 9.07<br>E-5 | -4.11<br>E-1 |

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 = Fresh water aquatic ecotoxicity potential

MAETP = Marine aquatic ecotoxicity potential

TETP = Terrestrial ecotoxicity potential

ECI = Environmental Cost Indicator

ADPF = Abiotic Depletion Potential for fossil resources expressed in [kg Sb-eq.]

**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            |
|-----------------------|-------------------------|------|------|------|--------------|-------------|-------------|------|------|------|-------------|------|------|------|-------------|-------------|-------------|-------------|--------------|
| GWP-total             | kg CO2 eq.              | 0.00 | 0.00 | 0.00 | 1.30<br>E+2  | 5.73<br>E-1 | 7.77<br>E+0 | 0.00 | 0.00 | 0.00 | 3.35<br>E-1 | 0.00 | 0.00 | 0.00 | 2.47<br>E-1 | 1.91<br>E-1 | 6.57<br>E+0 | 7.92<br>E-3 | 2.86<br>E+1  |
| GWP-fossil            | kg CO2 eq.              | 0.00 | 0.00 | 0.00 | 1.33<br>E+2  | 5.72<br>E-1 | 5.57<br>E-1 | 0.00 | 0.00 | 0.00 | 3.33<br>E-1 | 0.00 | 0.00 | 0.00 | 2.44<br>E-1 | 1.91<br>E-1 | 6.56<br>E+0 | 7.87<br>E-3 | -5.91<br>E+1 |
| GWP-biogenic          | kg CO2 eq.              | 0.00 | 0.00 | 0.00 | -3.78<br>E+0 | 2.65<br>E-4 | 7.21<br>E+0 | 0.00 | 0.00 | 0.00 | 1.20<br>E-3 | 0.00 | 0.00 | 0.00 | 2.68<br>E-3 | 8.82<br>E-5 | 4.84<br>E-3 | 4.22<br>E-5 | 8.78<br>E+1  |
| GWP-luluc             | kg CO2 eq.              | 0.00 | 0.00 | 0.00 | 2.24<br>E-1  | 2.10<br>E-4 | 1.36<br>E-4 | 0.00 | 0.00 | 0.00 | 1.90<br>E-4 | 0.00 | 0.00 | 0.00 | 7.21<br>E-5 | 6.99<br>E-5 | 1.75<br>E-3 | 3.84<br>E-6 | -1.39<br>E-1 |
| ODP                   | kg CFC11 eq.            | 0.00 | 0.00 | 0.00 | 1.04<br>E-5  | 1.26<br>E-7 | 3.56<br>E-8 | 0.00 | 0.00 | 0.00 | 1.98<br>E-8 | 0.00 | 0.00 | 0.00 | 1.18<br>E-8 | 4.21<br>E-8 | 7.17<br>E-8 | 2.48<br>E-9 | -3.44<br>E-6 |
| AP                    | mol H+ eq.              | 0.00 | 0.00 | 0.00 | 1.91<br>E+0  | 3.32<br>E-3 | 1.62<br>E-3 | 0.00 | 0.00 | 0.00 | 4.23<br>E-3 | 0.00 | 0.00 | 0.00 | 5.71<br>E-4 | 1.11<br>E-3 | 9.52<br>E-3 | 6.76<br>E-5 | -3.20<br>E-1 |
| EP-freshwater         | kg PO4 eq.              | 0.00 | 0.00 | 0.00 | 8.77<br>E-3  | 5.77<br>E-6 | 1.55<br>E-5 | 0.00 | 0.00 | 0.00 | 1.55<br>E-5 | 0.00 | 0.00 | 0.00 | 1.39<br>E-5 | 1.93<br>E-6 | 5.70<br>E-5 | 1.47<br>E-7 | -2.20<br>E-3 |
| EP-marine             | kg N eq.                | 0.00 | 0.00 | 0.00 | 1.80<br>E-1  | 1.17<br>E-3 | 6.25<br>E-4 | 0.00 | 0.00 | 0.00 | 3.98<br>E-4 | 0.00 | 0.00 | 0.00 | 1.22<br>E-4 | 3.90<br>E-4 | 3.11<br>E-3 | 2.14<br>E-5 | -6.26<br>E-2 |
| EP-terrestrial        | mol N eq.               | 0.00 | 0.00 | 0.00 | 6.40<br>E+0  | 1.29<br>E-2 | 5.59<br>E-3 | 0.00 | 0.00 | 0.00 | 1.54<br>E-2 | 0.00 | 0.00 | 0.00 | 1.50<br>E-3 | 4.30<br>E-3 | 3.20<br>E-2 | 2.36<br>E-4 | -7.04<br>E-1 |
| POCP                  | kg NMVOC eq.            | 0.00 | 0.00 | 0.00 | 5.58<br>E-1  | 3.68<br>E-3 | 1.70<br>E-3 | 0.00 | 0.00 | 0.00 | 1.64<br>E-3 | 0.00 | 0.00 | 0.00 | 3.71<br>E-4 | 1.23<br>E-3 | 7.78<br>E-3 | 6.89<br>E-5 | -2.90<br>E-1 |
| ADP-minerals & metals | kg Sb eq.               | 0.00 | 0.00 | 0.00 | 1.83<br>E-1  | 1.45<br>E-5 | 3.35<br>E-6 | 0.00 | 0.00 | 0.00 | 4.29<br>E-4 | 0.00 | 0.00 | 0.00 | 9.85<br>E-7 | 4.84<br>E-6 | 3.20<br>E-5 | 6.83<br>E-8 | -1.81<br>E-2 |
| ADP-fossil            | MJ, net calorific value | 0.00 | 0.00 | 0.00 | 1.67<br>E+3  | 8.63<br>E+0 | 4.90<br>E+0 | 0.00 | 0.00 | 0.00 | 3.56<br>E+0 | 0.00 | 0.00 | 0.00 | 3.20<br>E+0 | 2.88<br>E+0 | 1.48<br>E+1 | 1.85<br>E-1 | -6.65<br>E+2 |
| WDP                   | m3 world eq. deprived   | 0.00 | 0.00 | 0.00 | 5.65<br>E+1  | 3.09<br>E-2 | 4.15<br>E-2 | 0.00 | 0.00 | 0.00 | 1.14<br>E-1 | 0.00 | 0.00 | 0.00 | 2.46<br>E-2 | 1.03<br>E-2 | 6.81<br>E-1 | 7.60<br>E-3 | -1.10<br>E+1 |

- GWP-total = Global Warming Potential total
- GWP-fossil = Global Warming Potential fossil fuels
- GWP-biogenic = Global Warming Potential biogenic
- GWP-luluc = Global Warming Potential land use and land use change
- ODP = Depletion potential of the stratospheric ozone layer
- AP = Acidification Potential, Accumulated Exceedence
- EP-freshwater = Eutrophication Potential, fraction of nutrients reaching freshwater end compartment
- EP-marine = Eutrophication Potential, fraction of nutrients reaching marine end compartment
- EP-terrestrial = Eutrophication Potential, Accumulated Exceedence
- POCP = Formation potential of tropospheric ozone photochemical oxidants
- ADP-minerals&metals = Abiotic Depletion Potential for non fossil resources [2]
- ADP-fossil = Abiotic Depletion for fossil resources potential [2]
- WDP = Water (user) deprivation potential, deprivation-weighted water consumption [2]

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.

### 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 | 0.00 | 0.00 | 0.00 | 1.65<br>E-5 | 5.14<br>E-8  | 3.88<br>E-8  | 0.00 | 0.00 | 0.00 | 4.42<br>E-8 | 0.00 | 0.00 | 0.00 | 1.87<br>E-9  | 1.71<br>E-8  | 5.28<br>E-8 | 1.21<br>E-9  | -4.96<br>E-6 |
| IRP    | kBq U235 eq.      | 0.00 | 0.00 | 0.00 | 4.25<br>E+0 | 3.62<br>E-2  | 1.37<br>E-2  | 0.00 | 0.00 | 0.00 | 7.53<br>E-3 | 0.00 | 0.00 | 0.00 | 6.62<br>E-3  | 1.21<br>E-2  | 5.70<br>E-2 | 7.33<br>E-4  | -7.49<br>E-1 |
| ETP-fw | CTUe              | 0.00 | 0.00 | 0.00 | 7.39<br>E+3 | 7.70<br>E+0  | 6.91<br>E+0  | 0.00 | 0.00 | 0.00 | 1.28<br>E+1 | 0.00 | 0.00 | 0.00 | 3.26<br>E+0  | 2.57<br>E+0  | 4.94<br>E+1 | 3.94<br>E+1  | -1.80<br>E+3 |
| HTP-c  | CTUh              | 0.00 | 0.00 | 0.00 | 4.70<br>E-7 | 2.50<br>E-10 | 5.64<br>E-10 | 0.00 | 0.00 | 0.00 | 1.49<br>E-9 | 0.00 | 0.00 | 0.00 | 5.59<br>E-11 | 8.33<br>E-11 | 1.05<br>E-9 | 4.44<br>E-12 | -7.95<br>E-8 |
| HTP-nc | CTUh              | 0.00 | 0.00 | 0.00 | 6.88<br>E-6 | 8.42<br>E-9  | 7.19<br>E-9  | 0.00 | 0.00 | 0.00 | 1.31<br>E-8 | 0.00 | 0.00 | 0.00 | 1.82<br>E-9  | 2.81<br>E-9  | 5.33<br>E-8 | 1.31<br>E-10 | 2.54<br>E-6  |
| SQP    | ---               | 0.00 | 0.00 | 0.00 | 8.37<br>E+2 | 7.49<br>E+0  | 1.98<br>E+0  | 0.00 | 0.00 | 0.00 | 1.02<br>E+0 | 0.00 | 0.00 | 0.00 | 6.59<br>E-1  | 2.50<br>E+0  | 4.51<br>E+0 | 3.57<br>E-1  | -7.95<br>E+3 |

PM = Potential incidence of disease due to PM emissions

IRP = Potential Human exposure efficiency relative to U235 [1]

ETP-fw = Potential Comparative Toxic Unit for ecosystems [2]

HTP-c = Potential Comparative Toxic Unit for humans [2]

HTP-nc = Potential Comparative Toxic Unit for humans, non-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 disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

**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.

### RESOURCE USE per functional unit or declared unit (A1 / A2)

|       | UNIT | A1   | A2   | A3   | A1-A3       | A4          | A5          | B1   | B2   | B3   | B4          | B5   | B6   | B7   | C1          | C2          | C3          | C4          | D            |
|-------|------|------|------|------|-------------|-------------|-------------|------|------|------|-------------|------|------|------|-------------|-------------|-------------|-------------|--------------|
| PERE  | MJ   | 0.00 | 0.00 | 0.00 | 1.35<br>E+2 | 1.08<br>E-1 | 3.81<br>E-1 | 0.00 | 0.00 | 0.00 | 1.70<br>E-1 | 0.00 | 0.00 | 0.00 | 3.45<br>E-1 | 3.60<br>E-2 | 1.57<br>E+0 | 3.31<br>E-3 | -1.17<br>E+3 |
| PERM  | MJ   | 0.00 | 0.00 | 0.00 | 5.79<br>E+1 | 0.00        | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 0.00        | 0.00        | 0.00         |
| PERT  | MJ   | 0.00 | 0.00 | 0.00 | 1.93<br>E+2 | 1.08<br>E-1 | 3.81<br>E-1 | 0.00 | 0.00 | 0.00 | 1.70<br>E-1 | 0.00 | 0.00 | 0.00 | 3.45<br>E-1 | 3.60<br>E-2 | 1.57<br>E+0 | 3.31<br>E-3 | -1.17<br>E+3 |
| PENRE | MJ   | 0.00 | 0.00 | 0.00 | 1.69<br>E+3 | 9.17<br>E+0 | 5.23<br>E+0 | 0.00 | 0.00 | 0.00 | 3.78<br>E+0 | 0.00 | 0.00 | 0.00 | 3.43<br>E+0 | 3.06<br>E+0 | 1.58<br>E+1 | 1.96<br>E-1 | -7.07<br>E+2 |
| PENRM | MJ   | 0.00 | 0.00 | 0.00 | 9.01<br>E+1 | 0.00        | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 0.00        | 0.00        | 0.00         |
| PENRT | MJ   | 0.00 | 0.00 | 0.00 | 1.78<br>E+3 | 9.17<br>E+0 | 5.23<br>E+0 | 0.00 | 0.00 | 0.00 | 3.78<br>E+0 | 0.00 | 0.00 | 0.00 | 3.43<br>E+0 | 3.06<br>E+0 | 1.58<br>E+1 | 1.96<br>E-1 | -7.07<br>E+2 |
| SM    | kg   | 0.00 | 0.00 | 0.00 | 4.90<br>E+0 | 0.00        | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 0.00        | 0.00        | 0.00         |
| RSF   | MJ   | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 0.00        | 0.00        | 0.00         |
| NRSF  | MJ   | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 0.00        | 0.00        | 0.00         |
| FW    | m3   | 0.00 | 0.00 | 0.00 | 1.71<br>E+0 | 1.05<br>E-3 | 2.60<br>E-3 | 0.00 | 0.00 | 0.00 | 3.07<br>E-3 | 0.00 | 0.00 | 0.00 | 1.96<br>E-3 | 3.51<br>E-4 | 2.32<br>E-2 | 1.86<br>E-4 | -3.67<br>E-1 |

PERE = Use of renewable energy excluding renewable primary energy resources

PERM = Use of renewable 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

NRSF = Use of non renewable secondary fuels

FW = Use of net fresh water

### OUTPUT FLOWS AND WASTE CATEGORIES per functional unit or declared unit (A1 / A2)

|      | UNIT | A1   | A2   | A3   | A1-A3       | A4          | A5          | B1   | B2   | B3   | B4          | B5   | B6   | B7   | C1          | C2          | C3          | C4          | D            |
|------|------|------|------|------|-------------|-------------|-------------|------|------|------|-------------|------|------|------|-------------|-------------|-------------|-------------|--------------|
| HWD  | kg   | 0.00 | 0.00 | 0.00 | 3.35<br>E-2 | 2.19<br>E-5 | 6.75<br>E-6 | 0.00 | 0.00 | 0.00 | 7.78<br>E-5 | 0.00 | 0.00 | 0.00 | 2.47<br>E-6 | 7.30<br>E-6 | 1.51<br>E-5 | 2.57<br>E-7 | 9.71<br>E-3  |
| NHWD | kg   | 0.00 | 0.00 | 0.00 | 2.21<br>E+1 | 5.48<br>E-1 | 1.06<br>E-1 | 0.00 | 0.00 | 0.00 | 6.85<br>E-2 | 0.00 | 0.00 | 0.00 | 9.44<br>E-3 | 1.83<br>E-1 | 2.56<br>E-1 | 1.08<br>E+0 | -1.03<br>E+1 |
| RWD  | kg   | 0.00 | 0.00 | 0.00 | 3.95<br>E-3 | 5.67<br>E-5 | 1.72<br>E-5 | 0.00 | 0.00 | 0.00 | 7.50<br>E-6 | 0.00 | 0.00 | 0.00 | 6.62<br>E-6 | 1.89<br>E-5 | 4.30<br>E-5 | 1.12<br>E-6 | -1.10<br>E-3 |
| CRU  | kg   | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 1.91<br>E+0 | 0.00 | 0.00 | 0.00 | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 0.00        | 0.00        | 0.00         |
| MFR  | kg   | 0.00 | 0.00 | 0.00 | 7.79<br>E-1 | 0.00        | 1.66<br>E+0 | 0.00 | 0.00 | 0.00 | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 2.01<br>E+1 | 0.00        | 0.00         |
| MER  | kg   | 0.00 | 0.00 | 0.00 | 4.35<br>E-1 | 0.00        | 3.06<br>E-1 | 0.00 | 0.00 | 0.00 | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 2.53<br>E+0 | 0.00        | 0.00         |
| EEE  | MJ   | 0.00 | 0.00 | 0.00 | 1.81<br>E+0 | 0.00        | 8.49<br>E-1 | 0.00 | 0.00 | 0.00 | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 1.36<br>E+1 | 0.00        | 0.00         |
| ETE  | MJ   | 0.00 | 0.00 | 0.00 | 3.12<br>E+0 | 0.00        | 1.46<br>E+0 | 0.00 | 0.00 | 0.00 | 0.00        | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 2.35<br>E+1 | 0.00        | 0.00         |

HWD = Hazardous Waste Disposed

RWD = Radioactive Waste Disposed

MFR = Materials for recycling

EEE = Exported Electrical Energy

NHWD = Non Hazardous Waste Disposed

CRU = Components for reuse

MER = Materials for energy recovery

ETE = Exported Thermal Energy



### BIOGENIC CARBON CONTENT per functional unit or declared unit (A1 / A2)

|       | UNIT | A1   | A2   | A3   | A1-A3       | A4   | A5   | B1   | B2   | B3   | B4   | B5   | B6   | B7   | C1   | C2   | C3   | C4   | D    |
|-------|------|------|------|------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| BCCpr | kg C | 0.00 | 0.00 | 0.00 | 0.00        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| BCCpa | kg C | 0.00 | 0.00 | 0.00 | 1.75<br>E+0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

BCCpr = Biogenic carbon content in product  
 BCCpa = Biogenic carbon content in packaging

### CALCULATION RULES

The results in the EPD are representative for the ISO 40 door. Results for thicknesses of 60 mm can be calculated by making use of the scaling formula presented below. The scaling formula is a linear relationship with the structure:  $Y = A \cdot x + C$ .  $x$  is the thickness in mm.

| Name                   | A value  | C value   |
|------------------------|----------|-----------|
| Linear scaling formula | 0.096393 | 10.006464 |

Cut-off rules: The following processes are considered below cutoff:

- Maintenance and the use of auxiliary materials and equipment, with exception of such processes that are included in the Ecoinvent background processes.

- Capital goods and infrastructure processes, with exception of such processes that are included in the Ecoinvent background processes. Only the processes considered below cut-off are excluded from the study. No additional processes are excluded.

### SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

A1 - Extraction of raw materials and processing of intermediate products: This module considers the extraction and processing of all raw materials and energy which occur upstream to the Alpha Deuren manufacturing process, as well as waste processing up to the end-of waste state. This includes manufacturing of intermediate products such as the steel / PUR panels. A2 - Transport to production location: This includes the transport distance of the raw materials and intermediate products to the manufacturing facility via road. A3 - Production: This module takes into account the manufacturing of sectional doors and includes all processes linked to the production such as assembly and packaging.

The results for A4 are given for a transport scenario within the Netherlands (150 km), but a score per 1 km is also given so that users may calculate the impact of transport to an exact location, elsewhere in the European market.



### DECLARATION OF SVHC

The sectional door does not contain any substances of very high concern (SVHC).

### REFERENCES

ISO, 2006. "Environmental management. Life cycle assessment - Principles and framework". ISO 14040:2006 and Requirements and Guidelines". ISO 14044:2006;.

ISO/TR 14025, "Environmental labels and declarations – Type III environmental declarations", ISO/TR 14025:2000;.

EN 15804+A1:2012 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.

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

"Bepalingsmethode Milieuprestatie Bouwwerken versie 1.1, maart 2022".

### REMARKS

None