## Environmental Profile

This LCA is calculated according to：ISO 14044，ISO 14040 and EN 15804

## Ecochain

| Product： | 2015754 －Gravity Infiltration Pipe BL 110 L＝2，35 |
| :--- | :--- |
| Unit： | 1 piece |
| Manufacturer： | Wavin－SE－Eskilstuna |

LCA standard：

Standard database：
Externally verified：
Issue date：
End of validity：
Verifier：

## EN15804＋A2（2019）

Worldwide－Ecoinvent v 3．6 Cut－Off
Yes

## 20－06－2022

20－06－2027
Harry van Ewijk－SGS Search

This LCA was evaluated according to EN15804＋A2．It was concluded that the LCA complies with this standard．

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin－SE－Eskilstuna（2020）．（ $\square=$ module declared，MND＝module not declared）

| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ■ | 『 | ■ | MND | MND | MND | MND | MND | MND | MND | MND | MND | MND | V | ■ | 『 | 『 |
| Product |  |  |  |  | Use stage |  |  |  |  |  |  | End－of－Lif |  |  |  |  |
| A1 Raw material supply A2 Transport A3 Manufacturing Construction process stage |  |  |  |  | B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use |  |  |  |  |  |  | C1 De－construction demolition C2 Transport C3 Waste processing C4 Disposal |  |  |  |  |
| Construction process stage Benefits and loads beyond the system boundaries |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

A5 Assembly／Construction installation process
D Reuse－Recovery－Recycling－potentia
Environmental impacts and parameters






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## Results

|  | Environmental impact | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GWP-total |  | kg CO2 eq | 2.67E+0 | $2.19 \mathrm{E}-1$ | $9.15 \mathrm{E}-2$ | $2.98 \mathrm{E}+0$ | 3.41E-2 | 1.11E+0 | $1.88 \mathrm{E}-2$ | -1.72E+0 | $2.42 \mathrm{E}+0$ |
| GWP-f |  | kg CO2 eq | $2.66 \mathrm{E}+0$ | $2.18 \mathrm{E}-1$ | 6.63E-2 | $2.94 \mathrm{E}+0$ | 3.41E-2 | 1.11E+0 | $1.88 \mathrm{E}-2$ | -1.71E+0 | $2.39 \mathrm{E}+0$ |
| GWP-b |  | kg CO2 eq | $1.39 \mathrm{E}-2$ | -1.45E-5 | $1.75 \mathrm{E}-2$ | 3.13E-2 | 2.07E-5 | -1.38E-3 | 1.41E-5 | -6.31E-3 | $2.37 \mathrm{E}-2$ |
| GWP-Iuluc |  | kg CO2 eq | $8.76 \mathrm{E}-4$ | $1.29 \mathrm{E}-4$ | 7.71E-3 | 8.72E-3 | 1.21E-5 | 1.92E-4 | $2.76 \mathrm{E}-7$ | -3.77E-4 | 8.55E-3 |
| ODP |  | kg CFC11 eq | 7.47E-8 | $4.52 \mathrm{E}-8$ | $7.51 \mathrm{E}-9$ | $1.27 \mathrm{E}-7$ | $7.85 \mathrm{E}-9$ | $2.51 \mathrm{E}-8$ | 4.03E-10 | -8.12E-8 | $7.95 \mathrm{E}-8$ |
| AP |  | mol $\mathrm{H}+\mathrm{eq}$ | $9.85 \mathrm{E}-3$ | 5.30E-3 | 5.62E-4 | $1.57 \mathrm{E}-2$ | $1.94 \mathrm{E}-4$ | $1.05 \mathrm{E}-3$ | $9.64 \mathrm{E}-6$ | -4.76E-3 | $1.22 \mathrm{E}-2$ |
| EP-fw |  | kg P eq | 4.82E-5 | $1.30 \mathrm{E}-6$ | $1.22 \mathrm{E}-6$ | 5.07E-5 | 2.80E-7 | $5.55 \mathrm{E}-6$ | $1.26 \mathrm{E}-8$ | -2.16E-5 | 3.49E-5 |
| EP-m |  | kg Neq | $1.67 \mathrm{E}-3$ | $1.34 \mathrm{E}-3$ | $1.67 \mathrm{E}-4$ | 3.18E-3 | 6.94E-5 | 3.06E-4 | 6.75E-6 | -8.69E-4 | $2.70 \mathrm{E}-3$ |
| EP-T |  | mol Neq | $1.90 \mathrm{E}-2$ | $1.49 \mathrm{E}-2$ | 1.83E-3 | 3.57E-2 | $7.65 \mathrm{E}-4$ | 3.37E-3 | 3.91E-5 | -9.67E-3 | 3.02E-2 |
| POCP |  | kg NMVOC eq | 8.90E-3 | 3.91E-3 | 5.07E-4 | $1.33 \mathrm{E}-2$ | 2.19E-4 | $1.07 \mathrm{E}-3$ | $1.53 \mathrm{E}-5$ | -4.53E-3 | 1.01E-2 |
| ADP-mm |  | kg Sb eq | 3.81E-5 | $2.83 \mathrm{E}-6$ | 2.00E-6 | 4.29E-5 | 8.81E-7 | $4.18 \mathrm{E}-6$ | $9.72 \mathrm{E}-9$ | -1.10E-5 | 3.70E-5 |
| ADP-f |  | MJ | $9.14 \mathrm{E}+1$ | $2.95 \mathrm{E}+0$ | $6.59 \mathrm{E}-1$ | $9.50 \mathrm{E}+1$ | $5.23 \mathrm{E}-1$ | $3.33 \mathrm{E}+0$ | $2.94 \mathrm{E}-2$ | -5.11E+1 | $4.78 \mathrm{E}+1$ |
| WDP |  | m3 depriv. | $2.10 \mathrm{E}+0$ | $6.46 \mathrm{E}-3$ | $4.25 \mathrm{E}-1$ | $2.53 \mathrm{E}+0$ | $1.60 \mathrm{E}-3$ | $6.52 \mathrm{E}-2$ | $1.54 \mathrm{E}-4$ | -9.93E-1 | 1.60E+0 |
| PM |  | disease inc. | 8.32E-8 | $1.07 \mathrm{E}-8$ | $9.48 \mathrm{E}-9$ | $1.03 \mathrm{E}-7$ | 3.07E-9 | $1.73 \mathrm{E}-8$ | 2.02E-10 | -3.80E-8 | $8.59 \mathrm{E}-8$ |
| IR |  | kBq U-235 eq | $6.44 \mathrm{E}-2$ | $1.25 \mathrm{E}-2$ | $1.96 \mathrm{E}-3$ | $7.89 \mathrm{E}-2$ | 2.29E-3 | $1.01 \mathrm{E}-2$ | 1.37E-4 | -3.05E-2 | $6.10 \mathrm{E}-2$ |
| ETP-fw |  | CTUe | $1.75 \mathrm{E}+1$ | $2.15 \mathrm{E}+0$ | $1.84 \mathrm{E}+0$ | $2.15 \mathrm{E}+1$ | $4.25 \mathrm{E}-1$ | $3.80 \mathrm{E}+0$ | $2.59 \mathrm{E}-2$ | -7.83E+0 | $1.79 \mathrm{E}+1$ |
| HTP-c |  | CTUn | 1.02E-9 | $1.15 \mathrm{E}-10$ | 7.26E-11 | 1.21E-9 | 1.51E-11 | 4.59E-10 | 7.29E-13 | -3.53E-10 | $1.33 \mathrm{E}-9$ |
| HTP-nc |  | CTUn | 2.04E-8 | 1.99E-9 | $1.98 \mathrm{E}-9$ | $2.44 \mathrm{E}-8$ | 5.06E-10 | $5.71 \mathrm{E}-9$ | $1.66 \mathrm{E}-11$ | -5.39E-9 | 2.52E-8 |
| SQP |  | Pt | $3.81 \mathrm{E}+0$ | $1.15 \mathrm{E}+0$ | 8.67E-2 | $5.04 \mathrm{E}+0$ | $4.47 \mathrm{E}-1$ | $2.67 \mathrm{E}+0$ | $7.55 \mathrm{E}-2$ | $-1.63 \mathrm{E}+0$ | $6.60 \mathrm{E}+0$ |
|  | Resource use | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| PERE |  | MJ | 1.62E+0 | $2.57 \mathrm{E}-2$ | $4.16 \mathrm{E}+0$ | 5.80E+0 | $7.50 \mathrm{E}-3$ | 1.65E-1 | 1.15E-3 | -7.34E-1 | 5.24E+0 |
| PERM |  | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT |  | MJ | 1.62E+0 | 2.57E-2 | 4.16E+0 | 5.80E+0 | $7.50 \mathrm{E}-3$ | 1.65E-1 | 1.15E-3 | -7.34E-1 | 5.24E+0 |
| PENRE |  | MJ | $9.81 \mathrm{E}+1$ | $3.13 \mathrm{E}+0$ | 7.00E-1 | $1.02 \mathrm{E}+2$ | $5.55 \mathrm{E}-1$ | $3.55 \mathrm{E}+0$ | 3.12E-2 | -5.51E+1 | $5.10 \mathrm{E}+1$ |
| PENRM |  | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT |  | MJ | $9.81 \mathrm{E}+1$ | $3.13 \mathrm{E}+0$ | 7.00E-1 | $1.02 \mathrm{E}+2$ | $5.55 \mathrm{E}-1$ | $3.55 \mathrm{E}+0$ | 3.12E-2 | -5.51E+1 | $5.10 \mathrm{E}+1$ |
| PET |  | MJ | 9.97E+1 | $3.15 \mathrm{E}+0$ | $4.86 \mathrm{E}+0$ | 1.08E+2 | 5.63E-1 | $3.72 \mathrm{E}+0$ | $3.24 \mathrm{E}-2$ | $-5.58 \mathrm{E}+1$ | 5.62E+1 |
| SM |  | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF |  | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF |  | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW |  | m3 | $3.23 \mathrm{E}-2$ | $2.25 \mathrm{E}-4$ | 1.01E-2 | 4.27E-2 | 5.92E-5 | $1.92 \mathrm{E}-3$ | 3.63E-5 | -1.52E-2 | $2.95 \mathrm{E}-2$ |


| Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| HWD | kg | 1.56E-5 | $4.34 \mathrm{E}-6$ | $1.00 \mathrm{E}-6$ | 2.09E-5 | $1.34 \mathrm{E}-6$ | $5.45 \mathrm{E}-6$ | $3.55 \mathrm{E}-8$ | -1.64E-5 | 1.13E-5 |
| NHWD | kg | 1.17E-1 | 6.91E-2 | $3.08 \mathrm{E}-3$ | 1.89E-1 | 3.24E-2 | 1.64E-1 | 1.30E-1 | -4.28E-2 | 4.72E-1 |
| RWD | kg | 5.78E-5 | 2.01E-5 | $2.79 \mathrm{E}-6$ | 8.07E-5 | $3.56 \mathrm{E}-6$ | 1.28E-5 | 1.92E-7 | -2.84E-5 | $6.88 \mathrm{E}-5$ |
| CRU | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MFR | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MER | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EE | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EET | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EEE | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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