## Environmental Profile

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

## Ecochain

| Product： | 3079223 －PP Pipe Cab．SRS GN 110 SN8 L＝6 S／CH DIN |
| :--- | :--- |
| 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－potential
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 | $1.58 \mathrm{E}+1$ | 6.12E-1 | 5.51E-1 | 1.69E+1 | 2.07E-1 | $5.99 \mathrm{E}+0$ | $9.74 \mathrm{E}-2$ | -9.60E+0 | $1.36 \mathrm{E}+1$ |
| GWP-f |  | kg CO2 eq | $1.57 \mathrm{E}+1$ | 6.11E-1 | 3.99E-1 | $1.67 \mathrm{E}+1$ | $2.07 \mathrm{E}-1$ | $6.00 \mathrm{E}+0$ | $9.74 \mathrm{E}-2$ | $-9.56 \mathrm{E}+0$ | $1.34 \mathrm{E}+1$ |
| GWP-b |  | kg CO2 eq | 7.15E-2 | 1.62E-4 | $1.05 \mathrm{E}-1$ | 1.77E-1 | 1.25E-4 | -8.29E-3 | $8.48 \mathrm{E}-5$ | -3.36E-2 | $1.35 \mathrm{E}-1$ |
| GWP-Iuluc |  | kg CO2 eq | 4.01E-3 | $2.69 \mathrm{E}-4$ | $4.64 \mathrm{E}-2$ | 5.07E-2 | 7.31E-5 | $1.16 \mathrm{E}-3$ | $1.65 \mathrm{E}-6$ | -1.85E-3 | 5.01E-2 |
| ODP |  | kg CFC11 eq | $2.74 \mathrm{E}-7$ | $1.32 \mathrm{E}-7$ | 4.52E-8 | 4.51E-7 | $4.76 \mathrm{E}-8$ | 1.51E-7 | $2.44 \mathrm{E}-9$ | -3.53E-7 | $2.98 \mathrm{E}-7$ |
| AP |  | mol $\mathrm{H}+\mathrm{eq}$ | 5.55E-2 | 8.29E-3 | $3.38 \mathrm{E}-3$ | 6.72E-2 | $1.18 \mathrm{E}-3$ | $6.33 \mathrm{E}-3$ | 5.82E-5 | -2.69E-2 | 4.79E-2 |
| EP-fw |  | kg Peq | $2.27 \mathrm{E}-4$ | 5.07E-6 | $7.37 \mathrm{E}-6$ | 2.39E-4 | 1.70E-6 | 3.34E-5 | $7.59 \mathrm{E}-8$ | -1.06E-4 | 1.69E-4 |
| EP-m |  | kg Neq | $9.19 \mathrm{E}-3$ | $2.33 \mathrm{E}-3$ | 1.00E-3 | 1.25E-2 | 4.21E-4 | 1.84E-3 | 3.79E-5 | -4.75E-3 | 1.01E-2 |
| EP-T |  | mol eq | 1.04E-1 | $2.58 \mathrm{E}-2$ | $1.10 \mathrm{E}-2$ | 1.40E-1 | 4.64E-3 | $2.03 \mathrm{E}-2$ | $2.37 \mathrm{E}-4$ | -5.26E-2 | 1.13E-1 |
| POCP |  | kg NMVOC eq | 4.82E-2 | 6.92E-3 | 3.05E-3 | 5.82E-2 | 1.33E-3 | 6.41E-3 | 8.88E-5 | -2.43E-2 | 4.17E-2 |
| ADP-mm |  | kg Sb eq | $2.11 \mathrm{E}-4$ | 1.22E-5 | $1.20 \mathrm{E}-5$ | $2.35 \mathrm{E}-4$ | 5.34E-6 | 2.51E-5 | $5.87 \mathrm{E}-8$ | -6.35E-5 | 2.02E-4 |
| ADP-f |  | MJ | $5.61 \mathrm{E}+2$ | 8.82E+0 | 3.97E+0 | $5.74 \mathrm{E}+2$ | 3.17E+0 | 2.01E+1 | $1.78 \mathrm{E}-1$ | -3.02E+2 | $2.95 \mathrm{E}+2$ |
| WDP |  | m3 depriv. | $1.10 \mathrm{E}+1$ | $2.65 \mathrm{E}-2$ | $2.56 \mathrm{E}+0$ | $1.36 \mathrm{E}+1$ | $9.73 \mathrm{E}-3$ | 3.95E-1 | $8.91 \mathrm{E}-4$ | $-5.24 \mathrm{E}+0$ | $8.80 \mathrm{E}+0$ |
| PM |  | disease inc. | $4.84 \mathrm{E}-7$ | $4.44 \mathrm{E}-8$ | 5.70E-8 | 5.86E-7 | $1.86 \mathrm{E}-8$ | 1.04E-7 | $1.23 \mathrm{E}-9$ | -2.25E-7 | $4.85 \mathrm{E}-7$ |
| IR |  | kBq U-235 eq | $2.83 \mathrm{E}-1$ | $3.72 \mathrm{E}-2$ | $1.18 \mathrm{E}-2$ | 3.32E-1 | $1.39 \mathrm{E}-2$ | $6.06 \mathrm{E}-2$ | $8.27 \mathrm{E}-4$ | -1.40E-1 | 2.67E-1 |
| ETP-fw |  | ctue | 8.06E+1 | $7.28 \mathrm{E}+0$ | 1.11E+1 | $9.90 \mathrm{E}+1$ | $2.57 \mathrm{E}+0$ | 2.27E+1 | $1.49 \mathrm{E}-1$ | -3.73E+1 | 8.71E+1 |
| HTP-c |  | cTUn | 3.51E-9 | $2.83 \mathrm{E}-10$ | 4.37E-10 | $4.23 \mathrm{E}-9$ | $9.16 \mathrm{E}-11$ | $2.73 \mathrm{E}-9$ | 4.35E-12 | -1.59E-9 | $5.46 \mathrm{E}-9$ |
| HTP-nc |  | ctun | $9.89 \mathrm{E}-8$ | 7.52E-9 | $1.19 \mathrm{E}-8$ | $1.18 \mathrm{E}-7$ | 3.07E-9 | $3.38 \mathrm{E}-8$ | $9.60 \mathrm{E}-11$ | -4.52E-8 | 1.10E-7 |
| SQP |  | Pt | $1.88 \mathrm{E}+1$ | $6.00 \mathrm{E}+0$ | $5.21 \mathrm{E}-1$ | 2.53E+1 | $2.71 \mathrm{E}+0$ | $1.61 \mathrm{E}+1$ | $4.57 \mathrm{E}-1$ | -8.10E+0 | $3.64 \mathrm{E}+1$ |
|  | Resource use | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| PERE |  | MJ | 7.95E+0 | $9.64 \mathrm{E}-2$ | $2.50 \mathrm{E}+1$ | 3.31E+1 | $4.55 \mathrm{E}-2$ | $9.92 \mathrm{E}-1$ | $6.91 \mathrm{E}-3$ | $-3.75 \mathrm{E}+0$ | 3.04E+1 |
| PERM |  | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT |  | MJ | 7.95E+0 | $9.64 \mathrm{E}-2$ | $2.50 \mathrm{E}+1$ | 3.31E+1 | $4.55 \mathrm{E}-2$ | 9.92E-1 | $6.91 \mathrm{E}-3$ | -3.75E+0 | $3.04 \mathrm{E}+1$ |
| PENRE |  | MJ | $6.02 \mathrm{E}+2$ | $9.36 \mathrm{E}+0$ | $4.21 \mathrm{E}+0$ | $6.16 \mathrm{E}+2$ | 3.37E+0 | $2.14 \mathrm{E}+1$ | $1.89 \mathrm{E}-1$ | $-3.26 \mathrm{E}+2$ | $3.15 \mathrm{E}+2$ |
| PENRM |  | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT |  | MJ | $6.02 \mathrm{E}+2$ | $9.36 \mathrm{E}+0$ | 4.21E+0 | $6.16 \mathrm{E}+2$ | $3.37 \mathrm{E}+0$ | $2.14 \mathrm{E}+1$ | $1.89 \mathrm{E}-1$ | $-3.26 \mathrm{E}+2$ | $3.15 \mathrm{E}+2$ |
| PET |  | MJ | $6.10 \mathrm{E}+2$ | $9.46 \mathrm{E}+0$ | $2.92 \mathrm{E}+1$ | $6.49 \mathrm{E}+2$ | $3.41 \mathrm{E}+0$ | 2.24E+1 | $1.96 \mathrm{E}-1$ | $-3.29 \mathrm{E}+2$ | $3.45 \mathrm{E}+2$ |
| 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 | $1.65 \mathrm{E}-1$ | $9.08 \mathrm{E}-4$ | $6.07 \mathrm{E}-2$ | 2.27E-1 | $3.59 \mathrm{E}-4$ | 1.16E-2 | 2.20E-4 | -7.83E-2 | 1.61E-1 |


|  | Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| HWD |  | kg | $6.44 \mathrm{E}-5$ | 1.86E-5 | 6.04E-6 | 8.91E-5 | 8.11E-6 | 3.27E-5 | 2.15E-7 | -6.94E-5 | 6.07E-5 |
| NHWD |  | kg | $5.84 \mathrm{E}-1$ | 4.21E-1 | $1.85 \mathrm{E}-2$ | $1.02 \mathrm{E}+0$ | 1.97E-1 | 9.86E-1 | 7.86E-1 | -2.33E-1 | $2.76 \mathrm{E}+0$ |
| RWD |  | kg | $2.44 \mathrm{E}-4$ | 5.88E-5 | 1.68E-5 | 3.20E-4 | 2.16E-5 | 7.68E-5 | 1.16E-6 | -1.26E-4 | 2.93E-4 |
| 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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