

Environmental Profile

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

Ecochain v3.5.64



Product: 3062135 - Wafix PP ML Pipe RD 110 SN4 L=6 S/CH
 Unit: 1 piece
 Manufacturer: Wavin - SE - Eskilstuna

LCA standard: EN15804+A2 (2019)
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
 Externally verified: Yes
 Issue date: 20-06-2022
 End of validity: 20-06-2027
 Verifier: Harry van Ewijk - SGS Search



Wafix PP is a versatile, uncomplicated solution for your indoor drain. You can install the impact-resistant pipes even in frost. Their excellent chemical resistance makes them ideal for embedment applications.

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). (☑ = 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 | ☑ | ☑ | ☑ | ☑ |

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
 A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
 B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
 C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

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Results

| Environmental impact | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|----------------------|--------------|---------|----------|----------|---------|----------|---------|----------|-----------|---------|
| GWP-total | kg CO2 eq | 9.09E+0 | 9.98E-1 | 5.34E-1 | 1.06E+1 | 1.72E-1 | 3.95E+0 | 5.58E-2 | -5.45E+0 | 9.35E+0 |
| GWP-f | kg CO2 eq | 9.06E+0 | 9.97E-1 | 3.87E-1 | 1.04E+1 | 1.72E-1 | 3.93E+0 | 5.58E-2 | -5.43E+0 | 9.17E+0 |
| GWP-b | kg CO2 eq | 2.70E-2 | 3.96E-4 | 1.02E-1 | 1.29E-1 | 1.04E-4 | 1.02E-2 | 5.06E-5 | -1.91E-2 | 1.20E-1 |
| GWP-luluc | kg CO2 eq | 1.25E-2 | 3.89E-4 | 4.50E-2 | 5.79E-2 | 6.08E-5 | 9.66E-4 | 1.12E-6 | -1.06E-3 | 5.79E-2 |
| ODP | kg CFC11 eq | 1.87E-7 | 2.18E-7 | 4.38E-8 | 4.49E-7 | 3.96E-8 | 1.27E-7 | 1.82E-9 | -2.01E-7 | 4.16E-7 |
| AP | mol H+ eq | 3.31E-2 | 8.32E-3 | 3.28E-3 | 4.47E-2 | 9.79E-4 | 5.19E-3 | 4.17E-5 | -1.55E-2 | 3.55E-2 |
| EP-fw | kg P eq | 1.42E-4 | 9.47E-6 | 7.14E-6 | 1.59E-4 | 1.41E-6 | 2.79E-5 | 4.98E-8 | -6.21E-5 | 1.26E-4 |
| EP-m | kg N eq | 5.57E-3 | 2.61E-3 | 9.71E-4 | 9.16E-3 | 3.50E-4 | 1.49E-3 | 2.46E-5 | -2.73E-3 | 8.29E-3 |
| EP-T | mol N eq | 6.29E-2 | 2.89E-2 | 1.07E-2 | 1.02E-1 | 3.86E-3 | 1.64E-2 | 1.70E-4 | -3.03E-2 | 9.26E-2 |
| POCP | kg NMVOC eq | 2.82E-2 | 8.01E-3 | 2.96E-3 | 3.92E-2 | 1.10E-3 | 5.21E-3 | 6.04E-5 | -1.39E-2 | 3.16E-2 |
| ADP-mm | kg Sb eq | 1.63E-4 | 2.35E-5 | 1.16E-5 | 1.98E-4 | 4.44E-6 | 2.10E-5 | 4.12E-8 | -3.59E-5 | 1.88E-4 |
| ADP-f | MJ | 3.18E+2 | 1.48E+1 | 3.84E+0 | 3.36E+2 | 2.64E+0 | 1.69E+1 | 1.30E-1 | -1.71E+2 | 1.85E+2 |
| WDP | m3 depriv. | 6.38E+0 | 5.03E-2 | 2.48E+0 | 8.91E+0 | 8.09E-3 | 3.24E-1 | 6.23E-4 | -3.00E+0 | 6.25E+0 |
| PM | disease inc. | 2.93E-7 | 8.39E-8 | 5.53E-8 | 4.32E-7 | 1.55E-8 | 8.74E-8 | 8.79E-10 | -1.30E-7 | 4.06E-7 |
| IR | kBq U-235 eq | 1.76E-1 | 6.22E-2 | 1.14E-2 | 2.49E-1 | 1.15E-2 | 5.09E-2 | 5.92E-4 | -8.12E-2 | 2.31E-1 |
| ETP-fw | CTUe | 5.88E+1 | 1.29E+1 | 1.07E+1 | 8.24E+1 | 2.14E+0 | 1.88E+1 | 1.00E-1 | -2.44E+1 | 7.90E+1 |
| HTP-c | CTUh | 2.76E-9 | 4.43E-10 | 4.23E-10 | 3.63E-9 | 7.62E-11 | 2.15E-9 | 2.81E-12 | -9.12E-10 | 4.94E-9 |
| HTP-nc | CTUh | 6.72E-8 | 1.39E-8 | 1.15E-8 | 9.26E-8 | 2.55E-9 | 2.73E-8 | 6.30E-11 | -2.08E-8 | 1.02E-7 |
| SQP | Pt | 1.40E+1 | 1.20E+1 | 5.05E-1 | 2.64E+1 | 2.26E+0 | 1.36E+1 | 3.22E-1 | -4.77E+0 | 3.79E+1 |
| Resource use | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| PERE | MJ | 6.07E+0 | 1.78E-1 | 2.42E+1 | 3.05E+1 | 3.78E-2 | 8.27E-1 | 4.32E-3 | -2.18E+0 | 2.92E+1 |
| PERM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 6.07E+0 | 1.78E-1 | 2.42E+1 | 3.05E+1 | 3.78E-2 | 8.27E-1 | 4.32E-3 | -2.18E+0 | 2.92E+1 |
| PENRE | MJ | 3.41E+2 | 1.57E+1 | 4.08E+0 | 3.61E+2 | 2.80E+0 | 1.80E+1 | 1.38E-1 | -1.84E+2 | 1.97E+2 |
| PENRM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 3.41E+2 | 1.57E+1 | 4.08E+0 | 3.61E+2 | 2.80E+0 | 1.80E+1 | 1.38E-1 | -1.84E+2 | 1.97E+2 |
| PET | MJ | 3.47E+2 | 1.59E+1 | 2.83E+1 | 3.91E+2 | 2.84E+0 | 1.88E+1 | 1.42E-1 | -1.86E+2 | 2.27E+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 | 9.87E-2 | 1.72E-3 | 5.89E-2 | 1.59E-1 | 2.98E-4 | 9.38E-3 | 1.58E-4 | -4.54E-2 | 1.24E-1 |

| Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD | kg | 4.76E-5 | 3.56E-5 | 5.85E-6 | 8.90E-5 | 6.74E-6 | 2.73E-5 | 1.54E-7 | -4.23E-5 | 8.09E-5 |
| NHWD | kg | 4.25E-1 | 8.66E-1 | 1.79E-2 | 1.31E+0 | 1.63E-1 | 8.22E-1 | 6.53E-1 | -1.35E-1 | 2.81E+0 |
| RWD | kg | 1.55E-4 | 9.78E-5 | 1.63E-5 | 2.69E-4 | 1.79E-5 | 6.47E-5 | 8.54E-7 | -7.32E-5 | 2.79E-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 |



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777