

Environmental Profile

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

Ecochain v3.5.64



Product: 3061965 - Wafix PP Pipe GY 110 L=2 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 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 | 4.92E+0 | 1.95E-1 | 1.60E-1 | 5.27E+0 | 6.36E-2 | 1.85E+0 | 3.00E-2 | -2.97E+0 | 4.24E+0 |
| GWP-f | kg CO2 eq | 4.89E+0 | 1.95E-1 | 1.16E-1 | 5.20E+0 | 6.36E-2 | 1.85E+0 | 3.00E-2 | -2.96E+0 | 4.19E+0 |
| GWP-b | kg CO2 eq | 2.33E-2 | 5.50E-5 | 3.05E-2 | 5.39E-2 | 3.86E-5 | -2.57E-3 | 2.61E-5 | -1.02E-2 | 4.12E-2 |
| GWP-luluc | kg CO2 eq | 1.30E-3 | 8.45E-5 | 1.35E-2 | 1.49E-2 | 2.25E-5 | 3.57E-4 | 5.09E-7 | -5.61E-4 | 1.47E-2 |
| ODP | kg CFC11 eq | 9.90E-8 | 4.20E-8 | 1.31E-8 | 1.54E-7 | 1.46E-8 | 4.65E-8 | 7.51E-10 | -1.09E-7 | 1.07E-7 |
| AP | mol H+ eq | 1.76E-2 | 2.51E-3 | 9.83E-4 | 2.11E-2 | 3.62E-4 | 1.96E-3 | 1.79E-5 | -8.33E-3 | 1.51E-2 |
| EP-fw | kg P eq | 7.39E-5 | 1.65E-6 | 2.14E-6 | 7.77E-5 | 5.23E-7 | 1.03E-5 | 2.33E-8 | -3.29E-5 | 5.57E-5 |
| EP-m | kg N eq | 2.93E-3 | 7.11E-4 | 2.91E-4 | 3.93E-3 | 1.30E-4 | 5.68E-4 | 1.17E-5 | -1.47E-3 | 3.17E-3 |
| EP-T | mol N eq | 3.30E-2 | 7.87E-3 | 3.20E-3 | 4.41E-2 | 1.43E-3 | 6.26E-3 | 7.28E-5 | -1.63E-2 | 3.55E-2 |
| POCP | kg NMVOC eq | 1.52E-2 | 2.12E-3 | 8.88E-4 | 1.82E-2 | 4.08E-4 | 1.98E-3 | 2.73E-5 | -7.55E-3 | 1.31E-2 |
| ADP-mm | kg Sb eq | 7.80E-5 | 3.99E-6 | 3.49E-6 | 8.55E-5 | 1.64E-6 | 7.76E-6 | 1.81E-8 | -1.95E-5 | 7.54E-5 |
| ADP-f | MJ | 1.73E+2 | 2.82E+0 | 1.15E+0 | 1.77E+2 | 9.76E-1 | 6.20E+0 | 5.48E-2 | -9.31E+1 | 9.14E+1 |
| WDP | m3 depriv. | 3.41E+0 | 8.63E-3 | 7.43E-1 | 4.17E+0 | 2.99E-3 | 1.22E-1 | 2.73E-4 | -1.61E+0 | 2.68E+0 |
| PM | disease inc. | 1.55E-7 | 1.45E-8 | 1.66E-8 | 1.86E-7 | 5.74E-9 | 3.22E-8 | 3.77E-10 | -7.00E-8 | 1.55E-7 |
| IR | kBq U-235 eq | 9.30E-2 | 1.19E-2 | 3.43E-3 | 1.08E-1 | 4.26E-3 | 1.87E-2 | 2.54E-4 | -4.29E-2 | 8.86E-2 |
| ETP-fw | CTUe | 2.77E+1 | 2.35E+0 | 3.21E+0 | 3.32E+1 | 7.92E-1 | 7.01E+0 | 4.59E-2 | -1.19E+1 | 2.92E+1 |
| HTP-c | CTUh | 1.39E-9 | 8.96E-11 | 1.27E-10 | 1.61E-9 | 2.82E-11 | 8.41E-10 | 1.34E-12 | -4.92E-10 | 1.99E-9 |
| HTP-nc | CTUh | 3.49E-8 | 2.44E-9 | 3.46E-9 | 4.08E-8 | 9.44E-10 | 1.04E-8 | 2.95E-11 | -1.14E-8 | 4.08E-8 |
| SQP | Pt | 6.41E+0 | 1.97E+0 | 1.52E-1 | 8.54E+0 | 8.35E-1 | 4.96E+0 | 1.41E-1 | -2.51E+0 | 1.20E+1 |
| Resource use | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| PERE | MJ | 3.71E+0 | 3.13E-2 | 7.27E+0 | 1.10E+1 | 1.40E-2 | 3.06E-1 | 2.13E-3 | -1.15E+0 | 1.02E+1 |
| PERM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 3.71E+0 | 3.13E-2 | 7.27E+0 | 1.10E+1 | 1.40E-2 | 3.06E-1 | 2.13E-3 | -1.15E+0 | 1.02E+1 |
| PENRE | MJ | 1.86E+2 | 3.00E+0 | 1.22E+0 | 1.90E+2 | 1.04E+0 | 6.61E+0 | 5.82E-2 | -1.00E+2 | 9.75E+1 |
| PENRM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 1.86E+2 | 3.00E+0 | 1.22E+0 | 1.90E+2 | 1.04E+0 | 6.61E+0 | 5.82E-2 | -1.00E+2 | 9.75E+1 |
| PET | MJ | 1.90E+2 | 3.03E+0 | 8.50E+0 | 2.01E+2 | 1.05E+0 | 6.92E+0 | 6.03E-2 | -1.01E+2 | 1.08E+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 | 5.16E-2 | 2.96E-4 | 1.77E-2 | 6.96E-2 | 1.10E-4 | 3.57E-3 | 6.76E-5 | -2.41E-2 | 4.92E-2 |

| Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD | kg | 2.29E-5 | 6.08E-6 | 1.76E-6 | 3.08E-5 | 2.50E-6 | 1.01E-5 | 6.61E-8 | -2.29E-5 | 2.05E-5 |
| NHWD | kg | 2.09E-1 | 1.39E-1 | 5.38E-3 | 3.54E-1 | 6.05E-2 | 3.04E-1 | 2.42E-1 | -7.28E-2 | 8.87E-1 |
| RWD | kg | 8.25E-5 | 1.88E-5 | 4.88E-6 | 1.06E-4 | 6.63E-6 | 2.37E-5 | 3.58E-7 | -3.87E-5 | 9.81E-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 |



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