

# Environmental Profile

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

Ecochain v3.5.80



Product: 3043939 - Wafix PP End Cap 50 WT Special  
Unit: 1 piece  
Manufacturer: Wavin - PL -Buk - Extra products

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

LCA standard: EN15804+A2 (2019)  
Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off  
Externally verified: Yes  
Issue date: 08-06-2023  
End of validity: 08-06-2028  
Verifier: Martijn van Hövell - 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 - PL -Buk - Extra products (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                                                                |    |    |     |     | Use stage                                                                                                             |     |     |     |     |     |     | End-of-Life stage                                                             |    |    |    |   |
| A1 Raw material supply A2 Transport A3 Manufacturing                         |    |    |     |     | B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment<br>B6 Operational energy use B7 Operational water use |     |     |     |     |     |     | C1 De-construction demolition C2 Transport C3 Waste processing<br>C4 Disposal |    |    |    |   |
| Construction process stage                                                   |    |    |     |     |                                                                                                                       |     |     |     |     |     |     | Benefits and loads beyond the system boundaries                               |    |    |    |   |
| A4 Transport gate to site<br>A5 Assembly / Construction installation process |    |    |     |     |                                                                                                                       |     |     |     |     |     |     | D Reuse- Recovery- Recycling- potential                                       |    |    |    |   |

### Environmental impacts and parameters

**GWP-total** = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 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]

### Statement of Confidentiality

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# Results

| Environmental impact | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
|----------------------|--------------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|
| GWP-total            | kg CO2 eq    | 4.23E-2  | 2.68E-4  | 1.45E-4  | 4.27E-2  | 6.09E-4  | 9.97E-2  | 3.27E-4  | -4.52E-2  | 9.81E-2  |
| GWP-f                | kg CO2 eq    | 9.17E-2  | 2.67E-4  | 1.46E-4  | 9.21E-2  | 6.08E-4  | 4.91E-2  | 3.27E-4  | -4.82E-2  | 9.39E-2  |
| GWP-b                | kg CO2 eq    | -4.95E-2 | 1.62E-7  | -1.54E-6 | -4.95E-2 | 3.69E-7  | 5.06E-2  | 2.96E-7  | 3.05E-3   | 4.20E-3  |
| GWP-luluc            | kg CO2 eq    | 9.31E-5  | 9.46E-8  | 1.49E-7  | 9.34E-5  | 2.15E-7  | 3.32E-6  | 6.01E-9  | -5.29E-5  | 4.40E-5  |
| ODP                  | kg CFC11 eq  | 8.49E-9  | 6.16E-11 | 8.26E-12 | 8.56E-9  | 1.40E-10 | 5.62E-10 | 8.42E-12 | -4.23E-9  | 5.04E-9  |
| AP                   | mol H+ eq    | 4.27E-4  | 1.52E-6  | 1.47E-6  | 4.30E-4  | 3.46E-6  | 2.49E-5  | 2.04E-7  | -1.42E-4  | 3.16E-4  |
| EP-fw                | kg P eq      | 2.57E-6  | 2.20E-9  | 8.24E-9  | 2.58E-6  | 5.00E-9  | 9.98E-8  | 2.73E-10 | -9.47E-7  | 1.74E-6  |
| EP-m                 | kg N eq      | 7.82E-5  | 5.45E-7  | 1.55E-7  | 7.89E-5  | 1.24E-6  | 8.08E-6  | 2.08E-7  | -3.18E-5  | 5.66E-5  |
| EP-T                 | mol N eq     | 8.74E-4  | 6.01E-6  | 1.85E-6  | 8.82E-4  | 1.37E-5  | 8.92E-5  | 8.22E-7  | -3.62E-4  | 6.24E-4  |
| POCP                 | kg NMVOC eq  | 3.63E-4  | 1.72E-6  | 6.28E-7  | 3.66E-4  | 3.90E-6  | 2.64E-5  | 3.05E-7  | -1.38E-4  | 2.58E-4  |
| ADP-mm               | kg Sb eq     | 9.72E-6  | 6.92E-9  | 1.97E-8  | 9.74E-6  | 1.57E-8  | 8.32E-8  | 2.06E-10 | -5.91E-7  | 9.25E-6  |
| ADP-f                | MJ           | 2.59E+0  | 4.10E-3  | 1.36E-3  | 2.60E+0  | 9.33E-3  | 6.32E-2  | 6.17E-4  | -1.16E+0  | 1.51E+0  |
| WDP                  | m3 depriv.   | 5.64E-2  | 1.26E-5  | 5.22E-5  | 5.64E-2  | 2.86E-5  | 1.32E-3  | 3.79E-6  | -2.17E-2  | 3.61E-2  |
| PM                   | disease inc. | 4.84E-9  | 2.41E-11 | 9.08E-12 | 4.87E-9  | 5.49E-11 | 3.51E-10 | 4.23E-12 | -1.85E-9  | 3.43E-9  |
| IR                   | kBq U-235 eq | 3.68E-3  | 1.79E-5  | 1.02E-6  | 3.70E-3  | 4.08E-5  | 2.03E-4  | 2.88E-6  | -1.05E-3  | 2.90E-3  |
| ETP-fw               | CTUe         | 1.70E+0  | 3.33E-3  | 1.21E-2  | 1.72E+0  | 7.58E-3  | 1.07E-1  | 7.51E-4  | -5.94E-1  | 1.24E+0  |
| HTP-c                | CTUh         | 6.06E-11 | 1.19E-13 | 6.17E-13 | 6.14E-11 | 2.70E-13 | 1.03E-11 | 1.60E-14 | -2.53E-11 | 4.67E-11 |
| HTP-nc               | CTUh         | 1.12E-9  | 3.97E-12 | 1.57E-11 | 1.14E-9  | 9.04E-12 | 1.26E-10 | 3.93E-13 | -3.15E-10 | 9.55E-10 |
| SQP                  | Pt           | 4.51E+0  | 3.51E-3  | 2.24E-3  | 4.51E+0  | 7.99E-3  | 4.85E-2  | 1.58E-3  | -4.08E+0  | 4.91E-1  |
| Resource use         | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
| PERE                 | MJ           | 9.29E-1  | 5.89E-5  | 2.40E-2  | 9.53E-1  | 1.34E-4  | 2.96E-3  | 2.48E-5  | -6.37E-1  | 3.19E-1  |
| PERM                 | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PERT                 | MJ           | 9.29E-1  | 5.89E-5  | 2.40E-2  | 9.53E-1  | 1.34E-4  | 2.96E-3  | 2.48E-5  | -6.37E-1  | 3.19E-1  |
| PENRE                | MJ           | 2.77E+0  | 4.36E-3  | 1.44E-3  | 2.78E+0  | 9.91E-3  | 6.74E-2  | 6.55E-4  | -1.25E+0  | 1.61E+0  |
| PENRM                | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PENRT                | MJ           | 2.77E+0  | 4.36E-3  | 1.44E-3  | 2.78E+0  | 9.91E-3  | 6.74E-2  | 6.55E-4  | -1.25E+0  | 1.61E+0  |
| PET                  | MJ           | 3.70E+0  | 4.42E-3  | 2.55E-2  | 3.73E+0  | 1.00E-2  | 7.03E-2  | 6.80E-4  | -1.89E+0  | 1.92E+0  |
| 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           | 1.18E-3  | 4.64E-7  | 1.46E-6  | 1.18E-3  | 1.06E-6  | 6.26E-5  | 7.60E-7  | -4.13E-4  | 8.31E-4  |

| Output flows and waste categories | Unit | A1      | A2      | A3       | A1-A3   | C2      | C3      | C4       | D        | Total   |
|-----------------------------------|------|---------|---------|----------|---------|---------|---------|----------|----------|---------|
| HWD                               | kg   | 1.12E-6 | 1.05E-8 | 2.73E-13 | 1.13E-6 | 2.39E-8 | 1.26E-7 | 7.48E-10 | -8.51E-7 | 4.26E-7 |
| NHWD                              | kg   | 8.23E-3 | 2.54E-4 | 1.05E-6  | 8.49E-3 | 5.79E-4 | 3.99E-3 | 2.70E-3  | -3.00E-3 | 1.28E-2 |
| RWD                               | kg   | 4.29E-6 | 2.79E-8 | 1.10E-13 | 4.32E-6 | 6.35E-8 | 2.63E-7 | 4.03E-9  | -1.11E-6 | 3.54E-6 |
| 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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