

Environmental Profile

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

Ecochain v3.5.80



Product: 3072532 - PVCU Repair Coupler BR 400 SN4UDFI
 Unit: 1 piece
 Manufacturer: Wavin - PL -Buk - Extra products

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



PVC external sewage pipes with a solid wall are produced in two classes of circumferential stiffness (SN8, SN4), which enables optimal selection depending on the load conditions. A wide portfolio of system fittings facilitates the construction of many schemes of sewage networks, as well as connections with systems made of other materials. Diameter range DN/OD 110-500mm. The pipes meet the requirements of the PN-EN 1401-1 standard.

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

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 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]

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Results

| Environmental impact | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|----------------------|--------------|----------|----------|----------|----------|----------|---------|----------|----------|---------|
| GWP-total | kg CO2 eq | 1.23E+1 | 1.71E-1 | 1.45E-4 | 1.25E+1 | 2.05E-1 | 1.40E+1 | 6.01E-2 | -8.14E+0 | 1.87E+1 |
| GWP-f | kg CO2 eq | 1.80E+1 | 1.71E-1 | 1.46E-4 | 1.82E+1 | 2.04E-1 | 7.67E+0 | 6.01E-2 | -9.39E+0 | 1.67E+1 |
| GWP-b | kg CO2 eq | -5.70E+0 | 1.04E-4 | -1.54E-6 | -5.70E+0 | 1.24E-4 | 6.38E+0 | 7.53E-5 | 1.26E+0 | 1.94E+0 |
| GWP-luluc | kg CO2 eq | 2.25E-2 | 6.04E-5 | 1.49E-7 | 2.25E-2 | 7.23E-5 | 2.29E-3 | 1.59E-6 | -1.59E-2 | 8.99E-3 |
| ODP | kg CFC11 eq | 7.85E-6 | 3.93E-8 | 8.26E-12 | 7.89E-6 | 4.71E-8 | 6.19E-7 | 2.41E-9 | -3.77E-6 | 4.79E-6 |
| AP | mol H+ eq | 8.55E-2 | 9.72E-4 | 1.47E-6 | 8.65E-2 | 1.16E-3 | 1.17E-2 | 5.74E-5 | -3.80E-2 | 6.15E-2 |
| EP-fw | kg P eq | 7.72E-4 | 1.40E-6 | 8.24E-9 | 7.73E-4 | 1.68E-6 | 7.62E-5 | 7.18E-8 | -4.01E-4 | 4.50E-4 |
| EP-m | kg N eq | 1.60E-2 | 3.48E-4 | 1.55E-7 | 1.64E-2 | 4.16E-4 | 3.05E-3 | 4.21E-5 | -7.49E-3 | 1.24E-2 |
| EP-T | mol N eq | 1.73E-1 | 3.83E-3 | 1.85E-6 | 1.77E-1 | 4.59E-3 | 3.36E-2 | 2.30E-4 | -8.35E-2 | 1.32E-1 |
| POCP | kg NMVOC eq | 6.03E-2 | 1.10E-3 | 6.28E-7 | 6.14E-2 | 1.31E-3 | 9.99E-3 | 7.83E-5 | -2.69E-2 | 4.58E-2 |
| ADP-mm | kg Sb eq | 1.22E-3 | 4.42E-6 | 1.97E-8 | 1.23E-3 | 5.29E-6 | 4.49E-5 | 5.67E-8 | -1.87E-4 | 1.09E-3 |
| ADP-f | MJ | 4.41E+2 | 2.62E+0 | 1.36E-3 | 4.43E+2 | 3.14E+0 | 3.09E+1 | 1.74E-1 | -2.11E+2 | 2.67E+2 |
| WDP | m3 depriv. | 2.35E+1 | 8.04E-3 | 5.22E-5 | 2.35E+1 | 9.63E-3 | 1.13E+0 | 9.51E-4 | -1.21E+1 | 1.26E+1 |
| PM | disease inc. | 8.33E-7 | 1.54E-8 | 9.08E-12 | 8.48E-7 | 1.84E-8 | 1.48E-7 | 1.19E-9 | -3.84E-7 | 6.32E-7 |
| IR | kBq U-235 eq | 9.96E-1 | 1.15E-2 | 1.02E-6 | 1.01E+0 | 1.37E-2 | 1.09E-1 | 8.01E-4 | -4.44E-1 | 6.87E-1 |
| ETP-fw | CTUe | 4.62E+2 | 2.13E+0 | 1.21E-2 | 4.64E+2 | 2.55E+0 | 2.13E+2 | 2.30E+0 | -2.22E+2 | 4.61E+2 |
| HTP-c | CTUh | 1.33E-8 | 7.57E-11 | 6.17E-13 | 1.34E-8 | 9.06E-11 | 3.57E-9 | 4.45E-12 | -6.12E-9 | 1.10E-8 |
| HTP-nc | CTUh | 3.52E-7 | 2.54E-9 | 1.57E-11 | 3.55E-7 | 3.04E-9 | 7.93E-8 | 4.51E-10 | -1.69E-7 | 2.68E-7 |
| SQP | Pt | 6.08E+2 | 2.24E+0 | 2.24E-3 | 6.10E+2 | 2.68E+0 | 1.95E+1 | 4.40E-1 | -5.78E+2 | 5.46E+1 |
| Resource use | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| PERE | MJ | 1.18E+2 | 3.76E-2 | 2.40E-2 | 1.18E+2 | 4.50E-2 | 2.10E+0 | 6.32E-3 | -1.00E+2 | 2.00E+1 |
| PERM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1.18E+2 | 3.76E-2 | 2.40E-2 | 1.18E+2 | 4.50E-2 | 2.10E+0 | 6.32E-3 | -1.00E+2 | 2.00E+1 |
| PENRE | MJ | 4.72E+2 | 2.78E+0 | 1.44E-3 | 4.75E+2 | 3.33E+0 | 3.29E+1 | 1.85E-1 | -2.27E+2 | 2.84E+2 |
| PENRM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 4.72E+2 | 2.78E+0 | 1.44E-3 | 4.75E+2 | 3.33E+0 | 3.29E+1 | 1.85E-1 | -2.27E+2 | 2.84E+2 |
| PET | MJ | 5.91E+2 | 2.82E+0 | 2.55E-2 | 5.93E+2 | 3.37E+0 | 3.50E+1 | 1.91E-1 | -3.28E+2 | 3.04E+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 | 2.97E-1 | 2.97E-4 | 1.46E-6 | 2.97E-1 | 3.55E-4 | 3.35E-2 | 2.13E-4 | -1.61E-1 | 1.70E-1 |

| Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|-----------------------------------|------|---------|---------|----------|---------|---------|---------|---------|----------|---------|
| HWD | kg | 3.68E-4 | 6.70E-6 | 2.73E-13 | 3.74E-4 | 8.02E-6 | 5.27E-5 | 2.09E-7 | -2.04E-4 | 2.32E-4 |
| NHWD | kg | 1.99E+0 | 1.62E-1 | 1.05E-6 | 2.16E+0 | 1.94E-1 | 1.26E+0 | 8.14E-1 | -8.21E-1 | 3.60E+0 |
| RWD | kg | 9.92E-4 | 1.78E-5 | 1.10E-13 | 1.01E-3 | 2.13E-5 | 1.20E-4 | 1.14E-6 | -4.11E-4 | 7.41E-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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