# Environmental Profile

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

Ecochain v3.5.80

| | |
|---|---|
| Product: | 3025882 - PVC Eccent Reducer GY 125x100 BC |
| Unit: | 1 Piece |
| Manufacturer: | Wavin - FR - Varennes |

The Wavin range of PVC pipes and fittings to be glued covers all the usual diameters and allows you to create networks that are 100% compatible, homogeneous and meet the requirements of the French market.

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|---|---|
| LCA standard: | EN15804+A2 (2019) |
| Standard database: | Worldwide - Ecoinvent v 3.6 Cut-Off |
| Externally verified: | Yes |
| Issue date: | 24-11-2022 |
| End of validity: | 24-11-2027 |
| 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 - FR - Varennes (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]

## Statement of Confidentiality

# Results

| Environmental impact | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| GWP-total | kg CO2 eq | 3.94E-1 | 1.55E-2 | 1.99E-2 | 4.29E-1 | 5.69E-3 | 2.73E-1 | 1.77E-3 | -2.21E-1 | 4.88E-1 |
| GWP-f | kg CO2 eq | 4.80E-1 | 1.55E-2 | 1.54E-2 | 5.11E-1 | 5.69E-3 | 1.58E-1 | 1.77E-3 | -2.73E-1 | 4.03E-1 |
| GWP-b | kg CO2 eq | -8.65E-2 | 9.41E-6 | 4.39E-3 | -8.21E-2 | 3.45E-6 | 1.15E-1 | 2.21E-6 | 5.21E-2 | 8.49E-2 |
| GWP-luluc | kg CO2 eq | 7.38E-4 | 5.49E-6 | 1.70E-5 | 7.60E-4 | 2.01E-6 | 7.08E-5 | 4.77E-8 | -5.70E-4 | 2.63E-4 |
| ODP | kg CFC11 eq | 2.39E-7 | 3.57E-9 | 2.04E-9 | 2.44E-7 | 1.31E-9 | 1.96E-8 | 6.67E-11 | -1.23E-7 | 1.42E-7 |
| AP | mol H+ eq | 2.39E-3 | 8.83E-5 | 9.69E-5 | 2.57E-3 | 3.24E-5 | 3.48E-4 | 1.62E-6 | -1.22E-3 | 1.73E-3 |
| EP-fw | kg P eq | 2.42E-5 | 1.28E-7 | 3.72E-7 | 2.47E-5 | 4.68E-8 | 2.37E-6 | 2.14E-9 | -1.39E-5 | 1.32E-5 |
| EP-m | kg N eq | 4.63E-4 | 3.16E-5 | 2.77E-5 | 5.22E-4 | 1.16E-5 | 8.79E-5 | 9.86E-7 | -2.33E-4 | 3.89E-4 |
| EP-T | mol N eq | 4.98E-3 | 3.48E-4 | 3.45E-4 | 5.67E-3 | 1.28E-4 | 9.67E-4 | 6.46E-6 | -2.56E-3 | 4.21E-3 |
| POCP | kg NMVOC eq | 1.53E-3 | 9.95E-5 | 8.21E-5 | 1.71E-3 | 3.65E-5 | 2.90E-4 | 2.22E-6 | -8.25E-4 | 1.22E-3 |
| ADP-mm | kg Sb eq | 5.90E-4 | 4.01E-7 | 3.57E-7 | 5.90E-4 | 1.47E-7 | 1.38E-6 | 1.63E-9 | -5.38E-6 | 5.86E-4 |
| ADP-f | MJ | 1.14E+1 | 2.38E-1 | 2.14E-1 | 1.19E+1 | 8.73E-2 | 9.30E-1 | 4.87E-3 | -6.36E+0 | 6.56E+0 |
| WDP | m3 depriv. | 7.25E-1 | 7.30E-4 | 4.15E-1 | 1.14E+0 | 2.68E-4 | 3.51E-2 | 3.55E-5 | -4.20E-1 | 7.56E-1 |
| PM | disease inc. | 1.89E-8 | 1.40E-9 | 1.38E-9 | 2.17E-8 | 5.13E-10 | 4.39E-9 | 3.35E-11 | -1.23E-8 | 1.43E-8 |
| IR | kBq U-235 eq | 2.74E-2 | 1.04E-3 | 5.97E-4 | 2.91E-2 | 3.81E-4 | 3.31E-3 | 2.23E-5 | -1.48E-2 | 1.80E-2 |
| ETP-fw | CTUe | 1.91E+1 | 1.93E-1 | 2.29E-1 | 1.96E+1 | 7.09E-2 | 6.82E+0 | 7.44E-2 | -7.68E+0 | 1.88E+1 |
| HTP-c | CTUh | 4.52E-10 | 6.88E-12 | 1.65E-11 | 4.75E-10 | 2.52E-12 | 1.08E-10 | 1.36E-13 | -1.88E-10 | 3.98E-10 |
| HTP-nc | CTUh | 1.36E-8 | 2.30E-10 | 4.44E-10 | 1.43E-8 | 8.45E-11 | 2.44E-9 | 1.43E-11 | -5.64E-9 | 1.12E-8 |
| SQP | Pt | 1.13E+1 | 2.04E-1 | 1.34E+0 | 1.28E+1 | 7.47E-2 | 5.72E-1 | 1.24E-2 | -1.67E+1 | -3.16E+0 |
| Resource use | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| PERE | MJ | 2.10E+0 | 3.41E-3 | 3.41E-1 | 2.44E+0 | 1.25E-3 | 6.50E-2 | 1.77E-4 | -2.96E+0 | -4.45E-1 |
| PERM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 2.10E+0 | 3.41E-3 | 3.41E-1 | 2.44E+0 | 1.25E-3 | 6.50E-2 | 1.77E-4 | -2.96E+0 | -4.45E-1 |
| PENRE | MJ | 1.23E+1 | 2.53E-1 | 2.31E-1 | 1.28E+1 | 9.27E-2 | 9.89E-1 | 5.16E-3 | -6.83E+0 | 7.01E+0 |
| PENRM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 1.23E+1 | 2.53E-1 | 2.31E-1 | 1.28E+1 | 9.27E-2 | 9.89E-1 | 5.16E-3 | -6.83E+0 | 7.01E+0 |
| PET | MJ | 1.44E+1 | 2.56E-1 | 5.72E-1 | 1.52E+1 | 9.39E-2 | 1.05E+0 | 5.34E-3 | -9.79E+0 | 6.57E+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 | 8.65E-3 | 2.69E-5 | 9.72E-3 | 1.84E-2 | 9.88E-6 | 9.68E-4 | 5.94E-6 | -5.65E-3 | 1.37E-2 |

| Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| HWD | kg | 8.32E-5 | 6.09E-7 | 3.03E-7 | 8.41E-5 | 2.23E-7 | 1.56E-6 | 5.95E-9 | -5.86E-6 | 8.01E-5 |
| NHWD | kg | 5.72E-2 | 1.47E-2 | 2.22E-3 | 7.42E-2 | 5.41E-3 | 3.42E-2 | 2.16E-2 | -2.58E-2 | 1.10E-1 |
| RWD | kg | 2.45E-5 | 1.62E-6 | 6.13E-7 | 2.67E-5 | 5.94E-7 | 3.63E-6 | 3.16E-8 | -1.35E-5 | 1.75E-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

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