# Environmental Profile

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

Ecochain v3.5.80

| | |
|---|---|
| Product: | 3025980 - PVC Access Plug GY 40 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.

| | |
|---|---|
| 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 | 4.98E-2 | 1.93E-3 | 2.99E-3 | 5.47E-2 | 6.53E-4 | 5.60E-2 | 2.06E-4 | -2.24E-2 | 8.91E-2 |
| GWP-f | kg CO2 eq | 7.19E-2 | 1.92E-3 | 2.18E-3 | 7.60E-2 | 6.52E-4 | 2.49E-2 | 2.06E-4 | -4.09E-2 | 6.09E-2 |
| GWP-b | kg CO2 eq | -2.23E-2 | 1.17E-6 | 8.09E-4 | -2.15E-2 | 3.96E-7 | 3.11E-2 | 2.50E-7 | 1.86E-2 | 2.83E-2 |
| GWP-luluc | kg CO2 eq | 1.68E-4 | 6.81E-7 | 4.23E-6 | 1.73E-4 | 2.31E-7 | 7.97E-6 | 5.60E-9 | -1.58E-4 | 2.31E-5 |
| ODP | kg CFC11 eq | 2.74E-8 | 4.43E-10 | 3.03E-10 | 2.81E-8 | 1.50E-10 | 2.27E-9 | 7.76E-12 | -1.45E-8 | 1.60E-8 |
| AP | mol H+ eq | 3.76E-4 | 1.10E-5 | 2.11E-5 | 4.08E-4 | 3.71E-6 | 4.51E-5 | 1.88E-7 | -2.05E-4 | 2.52E-4 |
| EP-fw | kg P eq | 3.82E-6 | 1.58E-8 | 5.54E-8 | 3.89E-6 | 5.36E-9 | 2.68E-7 | 2.49E-10 | -2.69E-6 | 1.47E-6 |
| EP-m | kg N eq | 8.30E-5 | 3.92E-6 | 5.58E-6 | 9.25E-5 | 1.33E-6 | 1.24E-5 | 1.27E-7 | -4.29E-5 | 6.35E-5 |
| EP-T | mol N eq | 8.74E-4 | 4.32E-5 | 7.79E-5 | 9.95E-4 | 1.46E-5 | 1.37E-4 | 7.50E-7 | -4.82E-4 | 6.65E-4 |
| POCP | kg NMVOC eq | 2.59E-4 | 1.24E-5 | 1.65E-5 | 2.88E-4 | 4.19E-6 | 4.08E-5 | 2.58E-7 | -1.44E-4 | 1.89E-4 |
| ADP-mm | kg Sb eq | 9.92E-5 | 4.98E-8 | 9.38E-8 | 9.94E-5 | 1.69E-8 | 1.78E-7 | 1.90E-10 | -7.37E-7 | 9.88E-5 |
| ADP-f | MJ | 1.61E+0 | 2.95E-2 | 2.89E-2 | 1.66E+0 | 1.00E-2 | 1.15E-1 | 5.65E-4 | -8.78E-1 | 9.12E-1 |
| WDP | m3 depriv. | 8.61E-2 | 9.06E-5 | 4.32E-2 | 1.29E-1 | 3.07E-5 | 3.85E-3 | 4.46E-6 | -6.38E-2 | 6.95E-2 |
| PM | disease inc. | 3.67E-9 | 1.74E-10 | 2.80E-10 | 4.13E-9 | 5.89E-11 | 5.87E-10 | 3.88E-12 | -2.79E-9 | 1.99E-9 |
| IR | kBq U-235 eq | 4.07E-3 | 1.29E-4 | 6.74E-5 | 4.26E-3 | 4.37E-5 | 4.17E-4 | 2.58E-6 | -2.49E-3 | 2.24E-3 |
| ETP-fw | CTUe | 4.14E+0 | 2.40E-2 | 5.11E-2 | 4.22E+0 | 8.13E-3 | 7.38E-1 | 7.73E-3 | -1.86E+0 | 3.11E+0 |
| HTP-c | CTUh | 7.00E-11 | 8.53E-13 | 2.91E-12 | 7.38E-11 | 2.89E-13 | 1.44E-11 | 1.58E-14 | -3.25E-11 | 5.60E-11 |
| HTP-nc | CTUh | 1.95E-9 | 2.86E-11 | 9.06E-11 | 2.07E-9 | 9.69E-12 | 2.87E-10 | 1.52E-12 | -8.98E-10 | 1.47E-9 |
| SQP | Pt | 2.87E+0 | 2.53E-2 | 4.34E-1 | 3.33E+0 | 8.56E-3 | 7.11E-2 | 1.43E-3 | -5.04E+0 | -1.63E+0 |
| Resource use | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| PERE | MJ | 5.01E-1 | 4.24E-4 | 1.10E-1 | 6.11E-1 | 1.44E-4 | 7.36E-3 | 2.03E-5 | -8.78E-1 | -2.59E-1 |
| PERM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 5.01E-1 | 4.24E-4 | 1.10E-1 | 6.11E-1 | 1.44E-4 | 7.36E-3 | 2.03E-5 | -8.78E-1 | -2.59E-1 |
| PENRE | MJ | 1.72E+0 | 3.14E-2 | 3.11E-2 | 1.78E+0 | 1.06E-2 | 1.22E-1 | 6.00E-4 | -9.43E-1 | 9.75E-1 |
| PENRM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 1.72E+0 | 3.14E-2 | 3.11E-2 | 1.78E+0 | 1.06E-2 | 1.22E-1 | 6.00E-4 | -9.43E-1 | 9.75E-1 |
| PET | MJ | 2.22E+0 | 3.18E-2 | 1.41E-1 | 2.40E+0 | 1.08E-2 | 1.29E-1 | 6.20E-4 | -1.82E+0 | 7.15E-1 |
| 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 | 1.24E-3 | 3.34E-6 | 1.02E-3 | 2.26E-3 | 1.13E-6 | 1.13E-4 | 6.88E-7 | -1.11E-3 | 1.27E-3 |

| Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| HWD | kg | 1.37E-5 | 7.55E-8 | 3.13E-8 | 1.38E-5 | 2.56E-8 | 2.08E-7 | 6.93E-10 | -9.19E-7 | 1.31E-5 |
| NHWD | kg | 9.66E-3 | 1.83E-3 | 2.32E-4 | 1.17E-2 | 6.20E-4 | 4.57E-3 | 2.55E-3 | -4.30E-3 | 1.52E-2 |
| RWD | kg | 3.85E-6 | 2.01E-7 | 6.33E-8 | 4.12E-6 | 6.81E-8 | 4.80E-7 | 3.67E-9 | -2.33E-6 | 2.34E-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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