

# Environmental Profile

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

Ecochain v3.5.80



Product: 3025801 - PVC Expansion Coupler GY 100 SC/SP 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                                                                |    |    |     |     | 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    | 4.50E-1  | 1.74E-2  | 2.34E-2  | 4.91E-1  | 6.08E-3  | 3.19E-1  | 2.07E-3  | -2.47E-1  | 5.71E-1  |
| GWP-f                | kg CO2 eq    | 5.36E-1  | 1.73E-2  | 1.80E-2  | 5.72E-1  | 6.07E-3  | 2.04E-1  | 2.07E-3  | -2.99E-1  | 4.85E-1  |
| GWP-b                | kg CO2 eq    | -8.73E-2 | 1.05E-5  | 5.45E-3  | -8.19E-2 | 3.69E-6  | 1.15E-1  | 2.46E-6  | 5.21E-2   | 8.51E-2  |
| GWP-luluc            | kg CO2 eq    | 7.60E-4  | 6.14E-6  | 2.32E-5  | 7.89E-4  | 2.15E-6  | 7.02E-5  | 5.28E-8  | -5.69E-4  | 2.93E-4  |
| ODP                  | kg CFC11 eq  | 2.38E-7  | 4.00E-9  | 2.40E-9  | 2.44E-7  | 1.40E-9  | 1.91E-8  | 7.36E-11 | -1.21E-7  | 1.44E-7  |
| AP                   | mol H+ eq    | 2.66E-3  | 9.88E-5  | 1.26E-4  | 2.88E-3  | 3.46E-5  | 3.53E-4  | 1.79E-6  | -1.26E-3  | 2.01E-3  |
| EP-fw                | kg P eq      | 2.51E-5  | 1.43E-7  | 4.38E-7  | 2.57E-5  | 5.00E-8  | 2.34E-6  | 2.37E-9  | -1.38E-5  | 1.43E-5  |
| EP-m                 | kg N eq      | 5.04E-4  | 3.53E-5  | 3.53E-5  | 5.74E-4  | 1.24E-5  | 9.06E-5  | 1.24E-6  | -2.41E-4  | 4.37E-4  |
| EP-T                 | mol N eq     | 5.46E-3  | 3.89E-4  | 4.55E-4  | 6.30E-3  | 1.36E-4  | 9.97E-4  | 7.13E-6  | -2.65E-3  | 4.79E-3  |
| POCP                 | kg NMVOC eq  | 1.77E-3  | 1.11E-4  | 1.05E-4  | 1.99E-3  | 3.90E-5  | 2.98E-4  | 2.48E-6  | -8.69E-4  | 1.46E-3  |
| ADP-mm               | kg Sb eq     | 5.58E-4  | 4.49E-7  | 4.95E-7  | 5.59E-4  | 1.57E-7  | 1.38E-6  | 1.80E-9  | -5.83E-6  | 5.54E-4  |
| ADP-f                | MJ           | 1.33E+1  | 2.66E-1  | 2.46E-1  | 1.38E+1  | 9.32E-2  | 9.39E-1  | 5.37E-3  | -7.02E+0  | 7.85E+0  |
| WDP                  | m3 depriv.   | 7.40E-1  | 8.17E-4  | 4.54E-1  | 1.20E+0  | 2.86E-4  | 3.47E-2  | 3.88E-5  | -4.17E-1  | 8.13E-1  |
| PM                   | disease inc. | 2.24E-8  | 1.57E-9  | 1.76E-9  | 2.57E-8  | 5.48E-10 | 4.47E-9  | 3.69E-11 | -1.27E-8  | 1.81E-8  |
| IR                   | kBq U-235 eq | 3.05E-2  | 1.16E-3  | 6.63E-4  | 3.23E-2  | 4.07E-4  | 3.32E-3  | 2.47E-5  | -1.48E-2  | 2.12E-2  |
| ETP-fw               | CTUe         | 1.95E+1  | 2.16E-1  | 3.01E-1  | 2.00E+1  | 7.57E-2  | 6.60E+0  | 7.17E-2  | -7.67E+0  | 1.91E+1  |
| HTP-c                | CTUh         | 4.63E-10 | 7.69E-12 | 2.03E-11 | 4.91E-10 | 2.69E-12 | 1.11E-10 | 1.49E-13 | -1.88E-10 | 4.17E-10 |
| HTP-nc               | CTUh         | 1.37E-8  | 2.58E-10 | 5.68E-10 | 1.45E-8  | 9.02E-11 | 2.43E-9  | 1.41E-11 | -5.58E-9  | 1.14E-8  |
| SQP                  | Pt           | 1.15E+1  | 2.28E-1  | 2.01E+0  | 1.38E+1  | 7.97E-2  | 5.86E-1  | 1.37E-2  | -1.67E+1  | -2.23E+0 |
| Resource use         | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
| PERE                 | MJ           | 2.14E+0  | 3.82E-3  | 5.10E-1  | 2.65E+0  | 1.34E-3  | 6.45E-2  | 1.99E-4  | -2.95E+0  | -2.39E-1 |
| PERM                 | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PERT                 | MJ           | 2.14E+0  | 3.82E-3  | 5.10E-1  | 2.65E+0  | 1.34E-3  | 6.45E-2  | 1.99E-4  | -2.95E+0  | -2.39E-1 |
| PENRE                | MJ           | 1.43E+1  | 2.83E-1  | 2.66E-1  | 1.48E+1  | 9.90E-2  | 1.00E+0  | 5.70E-3  | -7.56E+0  | 8.37E+0  |
| PENRM                | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PENRT                | MJ           | 1.43E+1  | 2.83E-1  | 2.66E-1  | 1.48E+1  | 9.90E-2  | 1.00E+0  | 5.70E-3  | -7.56E+0  | 8.37E+0  |
| PET                  | MJ           | 1.64E+1  | 2.86E-1  | 7.76E-1  | 1.75E+1  | 1.00E-1  | 1.06E+0  | 5.90E-3  | -1.05E+1  | 8.13E+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           | 9.32E-3  | 3.01E-5  | 1.06E-2  | 2.00E-2  | 1.05E-5  | 9.99E-4  | 6.56E-6  | -5.70E-3  | 1.53E-2  |

| Output flows and waste categories | Unit | A1      | A2      | A3      | A1-A3   | C2      | C3      | C4      | D        | Total   |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD                               | kg   | 7.76E-5 | 6.81E-7 | 3.32E-7 | 7.86E-5 | 2.38E-7 | 1.60E-6 | 6.57E-9 | -6.12E-6 | 7.43E-5 |
| NHWD                              | kg   | 6.08E-2 | 1.65E-2 | 2.44E-3 | 7.97E-2 | 5.78E-3 | 3.60E-2 | 2.38E-2 | -2.57E-2 | 1.20E-1 |
| RWD                               | kg   | 2.89E-5 | 1.81E-6 | 6.71E-7 | 3.13E-5 | 6.34E-7 | 3.66E-6 | 3.49E-8 | -1.36E-5 | 2.21E-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       |



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