

# Environmental Profile

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

Ecochain v3.5.64



Product: 3080368 - ED Tech PP Pipe HTEM 50 L=2 S/PL  
Unit: 1 piece  
Manufacturer: Wavin - IT - SM Maddalena

PP SWR (ED Tech) products made of PP for waste water discharge are the ideal solution for anyone who wants a quick and easy connection system. A push-fit system, made watertight using elastomeric seals. Triple-layer pipes, with a white inner layer for easier inspection. Low linear expansion.

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 - IT - SM Maddalena (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 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 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    | 7.41E-1  | 6.62E-2  | 5.91E-2  | 8.67E-1  | 1.32E-2  | 5.07E-1  | 5.28E-3  | -5.29E-1  | 8.63E-1  |
| GWP-f                | kg CO2 eq    | 8.86E-1  | 6.61E-2  | 5.27E-2  | 1.01E+0  | 1.31E-2  | 3.59E-1  | 5.28E-3  | -5.28E-1  | 8.55E-1  |
| GWP-b                | kg CO2 eq    | -1.45E-1 | 4.01E-5  | 3.34E-3  | -1.42E-1 | 7.99E-6  | 1.48E-1  | 4.68E-6  | -1.79E-3  | 4.64E-3  |
| GWP-luluc            | kg CO2 eq    | 3.24E-4  | 2.34E-5  | 3.00E-3  | 3.35E-3  | 4.65E-6  | 7.39E-5  | 9.67E-8  | -1.51E-4  | 3.28E-3  |
| ODP                  | kg CFC11 eq  | 2.38E-8  | 1.52E-8  | 5.74E-9  | 4.47E-8  | 3.03E-9  | 9.79E-9  | 1.48E-10 | -2.13E-8  | 3.64E-8  |
| AP                   | mol H+ eq    | 3.47E-3  | 3.77E-4  | 1.78E-4  | 4.03E-3  | 7.49E-5  | 4.10E-4  | 3.48E-6  | -1.55E-3  | 2.97E-3  |
| EP-fw                | kg P eq      | 1.46E-5  | 5.44E-7  | 7.04E-7  | 1.59E-5  | 1.08E-7  | 2.13E-6  | 4.38E-9  | -6.33E-6  | 1.18E-5  |
| EP-m                 | kg N eq      | 5.67E-4  | 1.35E-4  | 3.40E-5  | 7.36E-4  | 2.68E-5  | 1.20E-4  | 2.23E-6  | -2.84E-4  | 6.00E-4  |
| EP-T                 | mol N eq     | 6.45E-3  | 1.49E-3  | 3.75E-4  | 8.31E-3  | 2.95E-4  | 1.32E-3  | 1.41E-5  | -3.21E-3  | 6.73E-3  |
| POCP                 | kg NMVOC eq  | 2.88E-3  | 4.25E-4  | 1.19E-4  | 3.42E-3  | 8.44E-5  | 4.15E-4  | 5.18E-6  | -1.41E-3  | 2.51E-3  |
| ADP-mm               | kg Sb eq     | 2.10E-5  | 1.71E-6  | 9.65E-7  | 2.36E-5  | 3.40E-7  | 1.61E-6  | 3.48E-9  | -3.84E-6  | 2.18E-5  |
| ADP-f                | MJ           | 3.07E+1  | 1.01E+0  | 7.28E-1  | 3.24E+1  | 2.02E-1  | 1.29E+0  | 1.07E-2  | -1.64E+1  | 1.76E+1  |
| WDP                  | m3 depriv.   | 6.21E-1  | 3.11E-3  | 1.67E-1  | 7.91E-1  | 6.19E-4  | 2.51E-2  | 5.41E-5  | -2.83E-1  | 5.34E-1  |
| PM                   | disease inc. | 3.32E-8  | 5.97E-9  | 2.16E-9  | 4.13E-8  | 1.19E-9  | 6.73E-9  | 7.32E-11 | -1.41E-8  | 3.52E-8  |
| IR                   | kBq U-235 eq | 1.88E-2  | 4.44E-3  | 7.09E-4  | 2.39E-2  | 8.82E-4  | 3.91E-3  | 4.94E-5  | -8.26E-3  | 2.05E-2  |
| ETP-fw               | CTUe         | 5.98E+0  | 8.24E-1  | 8.74E-1  | 7.68E+0  | 1.64E-1  | 1.48E+0  | 8.86E-3  | -2.68E+0  | 6.65E+0  |
| HTP-c                | CTUh         | 3.03E-10 | 2.93E-11 | 5.31E-11 | 3.85E-10 | 5.83E-12 | 1.75E-10 | 2.50E-13 | -1.21E-10 | 4.45E-10 |
| HTP-nc               | CTUh         | 6.54E-9  | 9.82E-10 | 9.63E-10 | 8.48E-9  | 1.95E-10 | 2.15E-9  | 5.57E-12 | -2.79E-9  | 8.04E-9  |
| SQP                  | Pt           | 1.42E+1  | 8.68E-1  | 1.50E-1  | 1.52E+1  | 1.73E-1  | 1.04E+0  | 2.71E-2  | -7.81E+0  | 8.60E+0  |
| Resource use         | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
| PERE                 | MJ           | 2.36E+0  | 1.46E-2  | 1.62E+0  | 3.99E+0  | 2.90E-3  | 6.33E-2  | 3.89E-4  | -1.37E+0  | 2.69E+0  |
| PERM                 | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PERT                 | MJ           | 2.36E+0  | 1.46E-2  | 1.62E+0  | 3.99E+0  | 2.90E-3  | 6.33E-2  | 3.89E-4  | -1.37E+0  | 2.69E+0  |
| PENRE                | MJ           | 3.29E+1  | 1.08E+0  | 7.95E-1  | 3.48E+1  | 2.14E-1  | 1.38E+0  | 1.14E-2  | -1.76E+1  | 1.88E+1  |
| PENRM                | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PENRT                | MJ           | 3.29E+1  | 1.08E+0  | 7.95E-1  | 3.48E+1  | 2.14E-1  | 1.38E+0  | 1.14E-2  | -1.76E+1  | 1.88E+1  |
| PET                  | MJ           | 3.53E+1  | 1.09E+0  | 2.41E+0  | 3.88E+1  | 2.17E-1  | 1.44E+0  | 1.18E-2  | -1.90E+1  | 2.15E+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           | 9.76E-3  | 1.15E-4  | 3.97E-3  | 1.38E-2  | 2.28E-5  | 7.59E-4  | 1.32E-5  | -4.32E-3  | 1.03E-2  |

| Output flows and waste categories | Unit | A1      | A2      | A3      | A1-A3   | C2      | C3      | C4      | D        | Total   |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD                               | kg   | 5.25E-6 | 2.60E-6 | 8.08E-7 | 8.65E-6 | 5.16E-7 | 2.11E-6 | 1.28E-8 | -4.35E-6 | 6.94E-6 |
| NHWD                              | kg   | 5.13E-2 | 6.29E-2 | 7.84E-3 | 1.22E-1 | 1.25E-2 | 6.44E-2 | 5.03E-2 | -1.64E-2 | 2.33E-1 |
| RWD                               | kg   | 1.75E-5 | 6.90E-6 | 8.63E-7 | 2.53E-5 | 1.37E-6 | 4.97E-6 | 7.03E-8 | -7.65E-6 | 2.41E-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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