

# Environmental Profile

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

Ecochain v3.5.64



Product: 3018750 - Ed Tech Branch HTEA 67,5° 40x40  
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    | 1.20E-1  | 9.10E-3  | 7.50E-3  | 1.37E-1  | 1.48E-3  | 1.06E-1  | 7.57E-4  | -7.26E-2  | 1.72E-1  |
| GWP-f                | kg CO2 eq    | 1.49E-1  | 9.09E-3  | 6.42E-3  | 1.65E-1  | 1.48E-3  | 7.17E-2  | 7.58E-4  | -8.43E-2  | 1.54E-1  |
| GWP-b                | kg CO2 eq    | -2.94E-2 | 5.52E-6  | 5.42E-4  | -2.89E-2 | 8.98E-7  | 3.46E-2  | 6.77E-7  | 1.18E-2   | 1.76E-2  |
| GWP-luluc            | kg CO2 eq    | 1.36E-4  | 3.22E-6  | 5.42E-4  | 6.81E-4  | 5.23E-7  | 8.05E-6  | 1.33E-8  | -1.11E-4  | 5.79E-4  |
| ODP                  | kg CFC11 eq  | 1.18E-8  | 2.10E-9  | 6.44E-10 | 1.45E-8  | 3.41E-10 | 1.24E-9  | 1.93E-11 | -5.11E-9  | 1.10E-8  |
| AP                   | mol H+ eq    | 6.40E-4  | 5.18E-5  | 2.59E-5  | 7.18E-4  | 8.42E-6  | 5.26E-5  | 4.65E-7  | -2.68E-4  | 5.12E-4  |
| EP-fw                | kg P eq      | 3.56E-6  | 7.48E-8  | 9.98E-8  | 3.74E-6  | 1.22E-8  | 2.39E-7  | 6.11E-10 | -1.95E-6  | 2.04E-6  |
| EP-m                 | kg N eq      | 1.17E-4  | 1.85E-5  | 4.37E-6  | 1.40E-4  | 3.01E-6  | 1.63E-5  | 4.17E-7  | -5.40E-5  | 1.06E-4  |
| EP-T                 | mol N eq     | 1.30E-3  | 2.04E-4  | 4.92E-5  | 1.55E-3  | 3.32E-5  | 1.79E-4  | 1.88E-6  | -6.10E-4  | 1.16E-3  |
| POCP                 | kg NMVOC eq  | 5.38E-4  | 5.84E-5  | 1.53E-5  | 6.12E-4  | 9.49E-6  | 5.47E-5  | 7.01E-7  | -2.37E-4  | 4.40E-4  |
| ADP-mm               | kg Sb eq     | 1.45E-5  | 2.35E-7  | 1.56E-7  | 1.49E-5  | 3.82E-8  | 1.96E-7  | 4.67E-10 | -9.75E-7  | 1.42E-5  |
| ADP-f                | MJ           | 4.73E+0  | 1.40E-1  | 8.45E-2  | 4.96E+0  | 2.27E-2  | 1.48E-1  | 1.41E-3  | -2.33E+0  | 2.80E+0  |
| WDP                  | m3 depriv.   | 9.69E-2  | 4.28E-4  | 2.99E-2  | 1.27E-1  | 6.96E-5  | 3.03E-3  | 7.44E-6  | -5.27E-2  | 7.76E-2  |
| PM                   | disease inc. | 7.00E-9  | 8.21E-10 | 2.59E-10 | 8.08E-9  | 1.33E-10 | 8.01E-10 | 9.70E-12 | -3.19E-9  | 5.83E-9  |
| IR                   | kBq U-235 eq | 5.47E-3  | 6.10E-4  | 7.88E-5  | 6.16E-3  | 9.92E-5  | 4.64E-4  | 6.60E-6  | -1.99E-3  | 4.75E-3  |
| ETP-fw               | CTUe         | 2.87E+0  | 1.13E-1  | 1.33E-1  | 3.12E+0  | 1.84E-2  | 2.23E-1  | 1.53E-3  | -1.30E+0  | 2.07E+0  |
| HTP-c                | CTUh         | 5.99E-11 | 4.03E-12 | 7.11E-12 | 7.11E-11 | 6.56E-13 | 2.04E-11 | 3.54E-14 | -2.90E-11 | 6.31E-11 |
| HTP-nc               | CTUh         | 1.35E-9  | 1.35E-10 | 1.47E-10 | 1.63E-9  | 2.20E-11 | 2.63E-10 | 8.49E-13 | -6.37E-10 | 1.28E-9  |
| SQP                  | Pt           | 3.27E+0  | 1.19E-1  | 1.54E-2  | 3.40E+0  | 1.94E-2  | 1.14E-1  | 3.62E-3  | -4.28E+0  | -7.45E-1 |
| Resource use         | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
| PERE                 | MJ           | 5.45E-1  | 2.00E-3  | 2.92E-1  | 8.39E-1  | 3.25E-4  | 7.05E-3  | 5.65E-5  | -7.26E-1  | 1.21E-1  |
| PERM                 | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PERT                 | MJ           | 5.45E-1  | 2.00E-3  | 2.92E-1  | 8.39E-1  | 3.25E-4  | 7.05E-3  | 5.65E-5  | -7.26E-1  | 1.21E-1  |
| PENRE                | MJ           | 5.07E+0  | 1.48E-1  | 9.22E-2  | 5.31E+0  | 2.41E-2  | 1.58E-1  | 1.50E-3  | -2.52E+0  | 2.98E+0  |
| PENRM                | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PENRT                | MJ           | 5.07E+0  | 1.48E-1  | 9.22E-2  | 5.31E+0  | 2.41E-2  | 1.58E-1  | 1.50E-3  | -2.52E+0  | 2.98E+0  |
| PET                  | MJ           | 5.62E+0  | 1.50E-1  | 3.85E-1  | 6.15E+0  | 2.44E-2  | 1.65E-1  | 1.56E-3  | -3.24E+0  | 3.10E+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           | 1.80E-3  | 1.58E-5  | 7.10E-4  | 2.52E-3  | 2.57E-6  | 1.22E-4  | 1.74E-6  | -1.01E-3  | 1.64E-3  |

| Output flows and waste categories | Unit | A1      | A2      | A3      | A1-A3   | C2      | C3      | C4      | D        | Total   |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD                               | kg   | 1.43E-6 | 3.57E-7 | 8.21E-8 | 1.86E-6 | 5.80E-8 | 2.73E-7 | 1.70E-9 | -1.01E-6 | 1.18E-6 |
| NHWD                              | kg   | 1.07E-2 | 8.65E-3 | 8.00E-4 | 2.02E-2 | 1.41E-3 | 7.74E-3 | 6.21E-3 | -3.72E-3 | 3.18E-2 |
| RWD                               | kg   | 6.29E-6 | 9.49E-7 | 8.77E-8 | 7.33E-6 | 1.54E-7 | 5.98E-7 | 9.23E-9 | -1.95E-6 | 6.14E-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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