

# Environmental Profile

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

Ecochain v3.5.64



Product: 3011078 - Ed Tech PP Endcap HTM 75  
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 B6 Operational energy use B7 Operational water use |     |     |     |     |     |     | C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal |    |    |    |   |
| Construction process stage                                                |    |    |     |     |                                                                                                                    |     |     |     |     |     |     | Benefits and loads beyond the system boundaries                            |    |    |    |   |
| A4 Transport gate to site 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    | 4.57E-2  | 3.57E-3  | 3.75E-3  | 5.30E-2  | 6.85E-4  | 3.79E-2  | 3.22E-4  | -3.06E-2  | 6.13E-2  |
| GWP-f                | kg CO2 eq    | 6.01E-2  | 3.57E-3  | 3.21E-3  | 6.68E-2  | 6.84E-4  | 2.04E-2  | 3.22E-4  | -3.69E-2  | 5.14E-2  |
| GWP-b                | kg CO2 eq    | -1.44E-2 | 2.17E-6  | 2.71E-4  | -1.41E-2 | 4.16E-7  | 1.75E-2  | 2.79E-7  | 6.29E-3   | 9.67E-3  |
| GWP-luluc            | kg CO2 eq    | 5.79E-5  | 1.26E-6  | 2.71E-4  | 3.30E-4  | 2.42E-7  | 4.05E-6  | 5.68E-9  | -5.77E-5  | 2.77E-4  |
| ODP                  | kg CFC11 eq  | 2.10E-9  | 8.23E-10 | 3.22E-10 | 3.24E-9  | 1.58E-10 | 6.03E-10 | 8.10E-12 | -1.85E-9  | 2.17E-9  |
| AP                   | mol H+ eq    | 2.38E-4  | 2.03E-5  | 1.29E-5  | 2.71E-4  | 3.90E-6  | 2.46E-5  | 1.94E-7  | -1.32E-4  | 1.68E-4  |
| EP-fw                | kg P eq      | 1.29E-6  | 2.94E-8  | 4.99E-8  | 1.37E-6  | 5.63E-9  | 1.19E-7  | 2.58E-10 | -9.95E-7  | 4.97E-7  |
| EP-m                 | kg N eq      | 4.59E-5  | 7.28E-6  | 2.19E-6  | 5.54E-5  | 1.39E-6  | 7.47E-6  | 1.24E-7  | -2.62E-5  | 3.82E-5  |
| EP-T                 | mol N eq     | 5.04E-4  | 8.02E-5  | 2.46E-5  | 6.09E-4  | 1.54E-5  | 8.21E-5  | 7.86E-7  | -2.96E-4  | 4.12E-4  |
| POCP                 | kg NMVOC eq  | 2.00E-4  | 2.29E-5  | 7.63E-6  | 2.30E-4  | 4.39E-6  | 2.57E-5  | 2.95E-7  | -1.15E-4  | 1.45E-4  |
| ADP-mm               | kg Sb eq     | 1.05E-6  | 9.24E-8  | 7.82E-8  | 1.22E-6  | 1.77E-8  | 9.81E-8  | 1.97E-10 | -2.86E-7  | 1.05E-6  |
| ADP-f                | MJ           | 1.95E+0  | 5.48E-2  | 4.23E-2  | 2.04E+0  | 1.05E-2  | 7.36E-2  | 5.92E-4  | -1.09E+0  | 1.04E+0  |
| WDP                  | m3 depriv.   | 3.96E-2  | 1.68E-4  | 1.49E-2  | 5.47E-2  | 3.22E-5  | 1.36E-3  | 3.67E-6  | -2.70E-2  | 2.91E-2  |
| PM                   | disease inc. | 2.46E-9  | 3.22E-10 | 1.30E-10 | 2.91E-9  | 6.18E-11 | 4.00E-10 | 4.07E-12 | -1.61E-9  | 1.76E-9  |
| IR                   | kBq U-235 eq | 1.35E-3  | 2.40E-4  | 3.94E-5  | 1.62E-3  | 4.59E-5  | 2.32E-4  | 2.73E-6  | -9.53E-4  | 9.53E-4  |
| ETP-fw               | CTUe         | 1.16E+0  | 4.45E-2  | 6.67E-2  | 1.27E+0  | 8.53E-3  | 8.76E-2  | 4.96E-4  | -6.64E-1  | 7.02E-1  |
| HTP-c                | CTUh         | 2.25E-11 | 1.58E-12 | 3.55E-12 | 2.77E-11 | 3.04E-13 | 1.06E-11 | 1.50E-14 | -1.43E-11 | 2.43E-11 |
| HTP-nc               | CTUh         | 4.95E-10 | 5.31E-11 | 7.37E-11 | 6.22E-10 | 1.02E-11 | 1.25E-10 | 3.22E-13 | -3.20E-10 | 4.37E-10 |
| SQP                  | Pt           | 1.56E+0  | 4.69E-2  | 7.70E-3  | 1.61E+0  | 8.99E-3  | 5.74E-2  | 1.52E-3  | -2.21E+0  | -5.28E-1 |
| Resource use         | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
| PERE                 | MJ           | 2.58E-1  | 7.87E-4  | 1.46E-1  | 4.05E-1  | 1.51E-4  | 3.50E-3  | 2.25E-5  | -3.75E-1  | 3.36E-2  |
| PERM                 | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PERT                 | MJ           | 2.58E-1  | 7.87E-4  | 1.46E-1  | 4.05E-1  | 1.51E-4  | 3.50E-3  | 2.25E-5  | -3.75E-1  | 3.36E-2  |
| PENRE                | MJ           | 2.09E+0  | 5.82E-2  | 4.61E-2  | 2.19E+0  | 1.12E-2  | 7.84E-2  | 6.28E-4  | -1.17E+0  | 1.11E+0  |
| PENRM                | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PENRT                | MJ           | 2.09E+0  | 5.82E-2  | 4.61E-2  | 2.19E+0  | 1.12E-2  | 7.84E-2  | 6.28E-4  | -1.17E+0  | 1.11E+0  |
| PET                  | MJ           | 2.35E+0  | 5.90E-2  | 1.92E-1  | 2.60E+0  | 1.13E-2  | 8.19E-2  | 6.51E-4  | -1.55E+0  | 1.14E+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           | 6.62E-4  | 6.20E-6  | 3.55E-4  | 1.02E-3  | 1.19E-6  | 4.12E-5  | 7.27E-7  | -5.15E-4  | 5.51E-4  |

| Output flows and waste categories | Unit | A1      | A2      | A3      | A1-A3   | C2      | C3      | C4       | D        | Total   |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|----------|----------|---------|
| HWD                               | kg   | 4.68E-7 | 1.40E-7 | 4.11E-8 | 6.49E-7 | 2.69E-8 | 1.27E-7 | 7.20E-10 | -3.86E-7 | 4.18E-7 |
| NHWD                              | kg   | 4.02E-3 | 3.40E-3 | 4.00E-4 | 7.82E-3 | 6.51E-4 | 3.58E-3 | 2.60E-3  | -1.84E-3 | 1.28E-2 |
| RWD                               | kg   | 1.26E-6 | 3.73E-7 | 4.38E-8 | 1.67E-6 | 7.14E-8 | 2.99E-7 | 3.86E-9  | -9.04E-7 | 1.14E-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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