

# Environmental Profile

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

Ecochain v3.5.64



Product: 3018726 - Ed Tech PP Bend HTB 15° 40  
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                            |    |    |     |     | D Reuse- Recovery- Recycling- potential                                                                               |     |     |     |     |     |     |                                                                               |    |    |    |   |
| A5 Assembly / Construction installation process      |    |    |     |     |                                                                                                                       |     |     |     |     |     |     |                                                                               |    |    |    |   |

# Results

| Environmental impact | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
|----------------------|--------------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|
| GWP-total            | kg CO2 eq    | 6.60E-2  | 4.88E-3  | 4.05E-3  | 7.49E-2  | 8.19E-4  | 5.54E-2  | 4.16E-4  | -3.99E-2  | 9.17E-2  |
| GWP-f                | kg CO2 eq    | 8.06E-2  | 4.88E-3  | 3.47E-3  | 8.90E-2  | 8.18E-4  | 3.81E-2  | 4.16E-4  | -4.57E-2  | 8.26E-2  |
| GWP-b                | kg CO2 eq    | -1.47E-2 | 2.96E-6  | 2.93E-4  | -1.44E-2 | 4.97E-7  | 1.73E-2  | 3.70E-7  | 5.90E-3   | 8.84E-3  |
| GWP-luluc            | kg CO2 eq    | 7.01E-5  | 1.73E-6  | 2.93E-4  | 3.65E-4  | 2.90E-7  | 4.47E-6  | 7.44E-9  | -5.60E-5  | 3.13E-4  |
| ODP                  | kg CFC11 eq  | 6.11E-9  | 1.12E-9  | 3.48E-10 | 7.58E-9  | 1.89E-10 | 6.79E-10 | 1.06E-11 | -2.68E-9  | 5.78E-9  |
| AP                   | mol H+ eq    | 3.46E-4  | 2.78E-5  | 1.40E-5  | 3.88E-4  | 4.66E-6  | 2.87E-5  | 2.55E-7  | -1.44E-4  | 2.77E-4  |
| EP-fw                | kg P eq      | 1.89E-6  | 4.02E-8  | 5.39E-8  | 1.98E-6  | 6.73E-9  | 1.32E-7  | 3.38E-10 | -1.01E-6  | 1.11E-6  |
| EP-m                 | kg N eq      | 6.26E-5  | 9.95E-6  | 2.36E-6  | 7.49E-5  | 1.67E-6  | 8.84E-6  | 2.22E-7  | -2.88E-5  | 5.69E-5  |
| EP-T                 | mol N eq     | 6.96E-4  | 1.10E-4  | 2.65E-5  | 8.33E-4  | 1.84E-5  | 9.73E-5  | 1.03E-6  | -3.25E-4  | 6.25E-4  |
| POCP                 | kg NMVOC eq  | 2.88E-4  | 3.13E-5  | 8.25E-6  | 3.27E-4  | 5.25E-6  | 2.98E-5  | 3.85E-7  | -1.28E-4  | 2.35E-4  |
| ADP-mm               | kg Sb eq     | 7.47E-6  | 1.26E-7  | 8.44E-8  | 7.68E-6  | 2.12E-8  | 1.07E-7  | 2.58E-10 | -5.12E-7  | 7.30E-6  |
| ADP-f                | MJ           | 2.56E+0  | 7.49E-2  | 4.56E-2  | 2.68E+0  | 1.26E-2  | 8.17E-2  | 7.75E-4  | -1.28E+0  | 1.49E+0  |
| WDP                  | m3 depriv.   | 5.28E-2  | 2.30E-4  | 1.61E-2  | 6.92E-2  | 3.85E-5  | 1.67E-3  | 4.51E-6  | -2.84E-2  | 4.25E-2  |
| PM                   | disease inc. | 3.71E-9  | 4.41E-10 | 1.40E-10 | 4.30E-9  | 7.38E-11 | 4.40E-10 | 5.32E-12 | -1.68E-9  | 3.14E-9  |
| IR                   | kBq U-235 eq | 2.86E-3  | 3.27E-4  | 4.26E-5  | 3.23E-3  | 5.49E-5  | 2.55E-4  | 3.61E-6  | -1.05E-3  | 2.50E-3  |
| ETP-fw               | CTUe         | 1.49E+0  | 6.08E-2  | 7.20E-2  | 1.62E+0  | 1.02E-2  | 1.20E-1  | 8.25E-4  | -6.62E-1  | 1.09E+0  |
| HTP-c                | CTUh         | 3.20E-11 | 2.16E-12 | 3.84E-12 | 3.80E-11 | 3.63E-13 | 1.15E-11 | 1.97E-14 | -1.51E-11 | 3.47E-11 |
| HTP-nc               | CTUh         | 7.27E-10 | 7.25E-11 | 7.96E-11 | 8.79E-10 | 1.22E-11 | 1.45E-10 | 4.64E-13 | -3.36E-10 | 7.01E-10 |
| SQP                  | Pt           | 1.64E+0  | 6.41E-2  | 8.31E-3  | 1.72E+0  | 1.07E-2  | 6.31E-2  | 1.98E-3  | -2.14E+0  | -3.53E-1 |
| Resource use         | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
| PERE                 | MJ           | 2.76E-1  | 1.07E-3  | 1.58E-1  | 4.35E-1  | 1.80E-4  | 3.91E-3  | 3.07E-5  | -3.64E-1  | 7.45E-2  |
| PERM                 | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PERT                 | MJ           | 2.76E-1  | 1.07E-3  | 1.58E-1  | 4.35E-1  | 1.80E-4  | 3.91E-3  | 3.07E-5  | -3.64E-1  | 7.45E-2  |
| PENRE                | MJ           | 2.74E+0  | 7.95E-2  | 4.98E-2  | 2.87E+0  | 1.33E-2  | 8.71E-2  | 8.23E-4  | -1.38E+0  | 1.59E+0  |
| PENRM                | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PENRT                | MJ           | 2.74E+0  | 7.95E-2  | 4.98E-2  | 2.87E+0  | 1.33E-2  | 8.71E-2  | 8.23E-4  | -1.38E+0  | 1.59E+0  |
| PET                  | MJ           | 3.02E+0  | 8.06E-2  | 2.08E-1  | 3.30E+0  | 1.35E-2  | 9.10E-2  | 8.53E-4  | -1.75E+0  | 1.66E+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           | 9.72E-4  | 8.48E-6  | 3.83E-4  | 1.36E-3  | 1.42E-6  | 6.53E-5  | 9.55E-7  | -5.36E-4  | 8.96E-4  |

| Output flows and waste categories | Unit | A1      | A2      | A3      | A1-A3   | C2      | C3      | C4       | D        | Total   |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|----------|----------|---------|
| HWD                               | kg   | 7.56E-7 | 1.92E-7 | 4.43E-8 | 9.92E-7 | 3.21E-8 | 1.49E-7 | 9.38E-10 | -5.31E-7 | 6.43E-7 |
| NHWD                              | kg   | 5.72E-3 | 4.64E-3 | 4.32E-4 | 1.08E-2 | 7.78E-4 | 4.25E-3 | 3.40E-3  | -1.95E-3 | 1.73E-2 |
| RWD                               | kg   | 3.25E-6 | 5.09E-7 | 4.73E-8 | 3.81E-6 | 8.54E-8 | 3.28E-7 | 5.06E-9  | -1.02E-6 | 3.21E-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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