

Environmental Profile

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

Ecochain v3.5.64



Product: 3067720 - SiTech+ Bend STB 30° 90
 Unit: 1 piece
 Manufacturer: Wavin - IT - SM Maddalena

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



Wavin SiTech+ is a waste water system made of mineral- reinforced polypropylene (PP), which offers increased durability, but more importantly is quiet and easy to install.

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

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
 A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
 B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
 C4 Disposal

Benefits and loads beyond the system boundaries

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 | 4.38E-1 | 9.30E-3 | 3.14E-2 | 4.78E-1 | 5.71E-3 | 2.74E-1 | 2.77E-3 | -2.67E-1 | 4.93E-1 |
| GWP-f | kg CO2 eq | 4.95E-1 | 9.30E-3 | 2.68E-2 | 5.31E-1 | 5.70E-3 | 2.03E-1 | 2.77E-3 | -2.94E-1 | 4.48E-1 |
| GWP-b | kg CO2 eq | -5.73E-2 | 5.64E-6 | 2.27E-3 | -5.50E-2 | 3.46E-6 | 7.10E-2 | 2.44E-6 | 2.73E-2 | 4.33E-2 |
| GWP-luluc | kg CO2 eq | 3.26E-4 | 3.29E-6 | 2.27E-3 | 2.60E-3 | 2.02E-6 | 3.21E-5 | 4.68E-8 | -2.75E-4 | 2.35E-3 |
| ODP | kg CFC11 eq | 2.13E-8 | 2.14E-9 | 2.69E-9 | 2.61E-8 | 1.31E-9 | 4.57E-9 | 6.97E-11 | -1.43E-8 | 1.78E-8 |
| AP | mol H+ eq | 1.90E-3 | 5.30E-5 | 1.08E-4 | 2.06E-3 | 3.25E-5 | 1.91E-4 | 1.66E-6 | -9.19E-4 | 1.37E-3 |
| EP-fw | kg P eq | 9.56E-6 | 7.65E-8 | 4.17E-7 | 1.01E-5 | 4.69E-8 | 9.38E-7 | 2.16E-9 | -5.68E-6 | 5.36E-6 |
| EP-m | kg N eq | 3.45E-4 | 1.89E-5 | 1.83E-5 | 3.82E-4 | 1.16E-5 | 5.74E-5 | 1.23E-6 | -1.76E-4 | 2.77E-4 |
| EP-T | mol N eq | 3.81E-3 | 2.09E-4 | 2.05E-4 | 4.22E-3 | 1.28E-4 | 6.32E-4 | 6.75E-6 | -1.97E-3 | 3.02E-3 |
| POCP | kg NMVOC eq | 1.65E-3 | 5.97E-5 | 6.38E-5 | 1.77E-3 | 3.66E-5 | 1.97E-4 | 2.53E-6 | -8.13E-4 | 1.19E-3 |
| ADP-mm | kg Sb eq | 2.19E-5 | 2.40E-7 | 6.54E-7 | 2.28E-5 | 1.48E-7 | 7.43E-7 | 1.67E-9 | -2.54E-6 | 2.12E-5 |
| ADP-f | MJ | 1.68E+1 | 1.43E-1 | 3.53E-1 | 1.73E+1 | 8.76E-2 | 5.74E-1 | 5.09E-3 | -8.73E+0 | 9.19E+0 |
| WDP | m3 depriv. | 3.32E-1 | 4.38E-4 | 1.25E-1 | 4.57E-1 | 2.69E-4 | 1.13E-2 | 2.33E-5 | -1.83E-1 | 2.86E-1 |
| PM | disease inc. | 1.91E-8 | 8.39E-10 | 1.08E-9 | 2.10E-8 | 5.15E-10 | 3.06E-9 | 3.50E-11 | -9.82E-9 | 1.48E-8 |
| IR | kBq U-235 eq | 1.28E-2 | 6.24E-4 | 3.30E-4 | 1.37E-2 | 3.83E-4 | 1.77E-3 | 2.37E-5 | -6.05E-3 | 9.86E-3 |
| ETP-fw | CTUe | 6.69E+0 | 1.16E-1 | 5.57E-1 | 7.36E+0 | 7.11E-2 | 7.28E-1 | 4.70E-3 | -3.40E+0 | 4.77E+0 |
| HTP-c | CTUh | 1.54E-10 | 4.12E-12 | 2.97E-11 | 1.88E-10 | 2.53E-12 | 7.71E-11 | 1.23E-13 | -8.17E-11 | 1.86E-10 |
| HTP-nc | CTUh | 3.71E-9 | 1.38E-10 | 6.16E-10 | 4.47E-9 | 8.48E-11 | 9.79E-10 | 2.84E-12 | -1.97E-9 | 3.57E-9 |
| SQP | Pt | 6.80E+0 | 1.22E-1 | 6.43E-2 | 6.99E+0 | 7.49E-2 | 4.50E-1 | 1.31E-2 | -9.41E+0 | -1.89E+0 |
| Resource use | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| PERE | MJ | 1.21E+0 | 2.05E-3 | 1.22E+0 | 2.43E+0 | 1.26E-3 | 2.78E-2 | 2.01E-4 | -1.64E+0 | 8.21E-1 |
| PERM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1.21E+0 | 2.05E-3 | 1.22E+0 | 2.43E+0 | 1.26E-3 | 2.78E-2 | 2.01E-4 | -1.64E+0 | 8.21E-1 |
| PENRE | MJ | 1.80E+1 | 1.51E-1 | 3.85E-1 | 1.85E+1 | 9.30E-2 | 6.12E-1 | 5.40E-3 | -9.41E+0 | 9.81E+0 |
| PENRM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 1.80E+1 | 1.51E-1 | 3.85E-1 | 1.85E+1 | 9.30E-2 | 6.12E-1 | 5.40E-3 | -9.41E+0 | 9.81E+0 |
| PET | MJ | 1.92E+1 | 1.54E-1 | 1.61E+0 | 2.09E+1 | 9.42E-2 | 6.40E-1 | 5.60E-3 | -1.11E+1 | 1.06E+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 | 5.47E-3 | 1.61E-5 | 2.97E-3 | 8.45E-3 | 9.91E-6 | 3.75E-4 | 6.29E-6 | -3.24E-3 | 5.60E-3 |

| Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD | kg | 3.32E-6 | 3.65E-7 | 3.43E-7 | 4.03E-6 | 2.24E-7 | 9.87E-7 | 6.11E-9 | -2.86E-6 | 2.39E-6 |
| NHWD | kg | 2.72E-2 | 8.84E-3 | 3.35E-3 | 3.94E-2 | 5.43E-3 | 2.87E-2 | 2.24E-2 | -1.09E-2 | 8.51E-2 |
| RWD | kg | 1.31E-5 | 9.70E-7 | 3.66E-7 | 1.45E-5 | 5.95E-7 | 2.27E-6 | 3.33E-8 | -5.73E-6 | 1.16E-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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