

# Environmental Profile

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

Ecochain v3.5.64



Product: 3085676 - SiTech+IJM Double Lenght Socket STLL 75  
Unit: 1 piece  
Manufacturer: Wavin - IT - SM Maddalena

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.

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    | 4.08E-1  | 6.24E-3  | 2.48E-2  | 4.39E-1  | 5.14E-3  | 2.37E-1  | 2.47E-3  | -2.31E-1  | 4.53E-1  |
| GWP-f                | kg CO2 eq    | 4.50E-1  | 6.23E-3  | 2.12E-2  | 4.78E-1  | 5.14E-3  | 1.76E-1  | 2.47E-3  | -2.70E-1  | 3.91E-1  |
| GWP-b                | kg CO2 eq    | -4.23E-2 | 3.78E-6  | 1.79E-3  | -4.05E-2 | 3.12E-6  | 6.14E-2  | 2.17E-6  | 3.92E-2   | 6.01E-2  |
| GWP-luluc            | kg CO2 eq    | 3.63E-4  | 2.21E-6  | 1.79E-3  | 2.15E-3  | 1.82E-6  | 2.95E-5  | 4.18E-8  | -3.45E-4  | 1.84E-3  |
| ODP                  | kg CFC11 eq  | 1.84E-8  | 1.44E-9  | 2.13E-9  | 2.20E-8  | 1.18E-9  | 4.32E-9  | 6.22E-11 | -1.34E-8  | 1.41E-8  |
| AP                   | mol H+ eq    | 1.73E-3  | 3.55E-5  | 8.55E-5  | 1.85E-3  | 2.93E-5  | 1.79E-4  | 1.48E-6  | -8.90E-4  | 1.17E-3  |
| EP-fw                | kg P eq      | 9.15E-6  | 5.13E-8  | 3.29E-7  | 9.53E-6  | 4.23E-8  | 8.64E-7  | 1.92E-9  | -6.33E-6  | 4.10E-6  |
| EP-m                 | kg N eq      | 3.26E-4  | 1.27E-5  | 1.44E-5  | 3.53E-4  | 1.05E-5  | 5.40E-5  | 1.07E-6  | -1.72E-4  | 2.46E-4  |
| EP-T                 | mol N eq     | 3.55E-3  | 1.40E-4  | 1.62E-4  | 3.85E-3  | 1.15E-4  | 5.94E-4  | 6.03E-6  | -1.93E-3  | 2.63E-3  |
| POCP                 | kg NMVOC eq  | 1.49E-3  | 4.00E-5  | 5.04E-5  | 1.58E-3  | 3.30E-5  | 1.85E-4  | 2.26E-6  | -7.69E-4  | 1.03E-3  |
| ADP-mm               | kg Sb eq     | 1.60E-5  | 1.61E-7  | 5.16E-7  | 1.67E-5  | 1.33E-7  | 7.02E-7  | 1.49E-9  | -2.26E-6  | 1.53E-5  |
| ADP-f                | MJ           | 1.51E+1  | 9.57E-2  | 2.79E-1  | 1.55E+1  | 7.88E-2  | 5.32E-1  | 4.54E-3  | -7.98E+0  | 8.12E+0  |
| WDP                  | m3 depriv.   | 3.00E-1  | 2.94E-4  | 9.86E-2  | 3.99E-1  | 2.42E-4  | 1.02E-2  | 2.08E-5  | -1.87E-1  | 2.22E-1  |
| PM                   | disease inc. | 1.75E-8  | 5.63E-10 | 8.56E-10 | 1.89E-8  | 4.64E-10 | 2.87E-9  | 3.12E-11 | -1.01E-8  | 1.22E-8  |
| IR                   | kBq U-235 eq | 1.13E-2  | 4.18E-4  | 2.60E-4  | 1.19E-2  | 3.45E-4  | 1.66E-3  | 2.11E-5  | -6.28E-3  | 7.69E-3  |
| ETP-fw               | CTUe         | 7.60E+0  | 7.77E-2  | 4.40E-1  | 8.11E+0  | 6.40E-2  | 6.70E-1  | 4.09E-3  | -4.13E+0  | 4.72E+0  |
| HTP-c                | CTUh         | 1.36E-10 | 2.76E-12 | 2.35E-11 | 1.63E-10 | 2.28E-12 | 7.18E-11 | 1.10E-13 | -7.88E-11 | 1.58E-10 |
| HTP-nc               | CTUh         | 3.40E-9  | 9.26E-11 | 4.87E-10 | 3.97E-9  | 7.63E-11 | 9.04E-10 | 2.51E-12 | -2.04E-9  | 2.92E-9  |
| SQP                  | Pt           | 5.90E+0  | 8.18E-2  | 5.08E-2  | 6.04E+0  | 6.75E-2  | 4.15E-1  | 1.17E-2  | -1.05E+1  | -3.94E+0 |
| Resource use         | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
| PERE                 | MJ           | 1.09E+0  | 1.37E-3  | 9.65E-1  | 2.06E+0  | 1.13E-3  | 2.55E-2  | 1.79E-4  | -1.86E+0  | 2.26E-1  |
| PERM                 | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PERT                 | MJ           | 1.09E+0  | 1.37E-3  | 9.65E-1  | 2.06E+0  | 1.13E-3  | 2.55E-2  | 1.79E-4  | -1.86E+0  | 2.26E-1  |
| PENRE                | MJ           | 1.62E+1  | 1.02E-1  | 3.04E-1  | 1.66E+1  | 8.37E-2  | 5.67E-1  | 4.82E-3  | -8.59E+0  | 8.68E+0  |
| PENRM                | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PENRT                | MJ           | 1.62E+1  | 1.02E-1  | 3.04E-1  | 1.66E+1  | 8.37E-2  | 5.67E-1  | 4.82E-3  | -8.59E+0  | 8.68E+0  |
| PET                  | MJ           | 1.73E+1  | 1.03E-1  | 1.27E+0  | 1.87E+1  | 8.48E-2  | 5.93E-1  | 5.00E-3  | -1.05E+1  | 8.90E+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           | 4.96E-3  | 1.08E-5  | 2.34E-3  | 7.32E-3  | 8.92E-6  | 3.32E-4  | 5.61E-6  | -3.47E-3  | 4.20E-3  |

| Output flows and waste categories | Unit | A1      | A2      | A3      | A1-A3   | C2      | C3      | C4      | D        | Total   |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD                               | kg   | 3.01E-6 | 2.45E-7 | 2.71E-7 | 3.53E-6 | 2.02E-7 | 9.21E-7 | 5.45E-9 | -2.64E-6 | 2.01E-6 |
| NHWD                              | kg   | 2.54E-2 | 5.93E-3 | 2.64E-3 | 3.40E-2 | 4.89E-3 | 2.63E-2 | 2.00E-2 | -1.06E-2 | 7.46E-2 |
| RWD                               | kg   | 1.13E-5 | 6.51E-7 | 2.89E-7 | 1.22E-5 | 5.36E-7 | 2.13E-6 | 2.97E-8 | -5.92E-6 | 9.03E-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       |



Ecochain Technologies BV  
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands  
<https://www.ecochain.com>  
+31 20 3035 777