Environmental Profile

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

Ecochain v3.5.64

Product:	3067793 - SiTech+ Coupler STU 90
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

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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	4.46E-1	1.14E-2	2.82E-2	4.85E-1	5.38E-3	3.03E-1	2.69E-3	-2.56E-1	5.40E-1
GWP-f	kg CO2 eq	5.04E-1	1.14E-2	2.41E-2	5.39E-1	5.38E-3	2.29E-1	2.69E-3	-2.91E-1	4.85E-1
GWP-b	kg CO2 eq	-5.81E-2	6.93E-6	2.04E-3	-5.61E-2	3.27E-6	7.42E-2	2.39E-6	3.48E-2	5.30E-2
GWP-luluc	kg CO2 eq	3.91E-4	4.04E-6	2.04E-3	2.43E-3	1.90E-6	2.97E-5	4.60E-8	-3.23E-4	2.14E-3
ODP	kg CFC11 eq	3.15E-8	2.63E-9	2.42E-9	3.65E-8	1.24E-9	4.40E-9	6.82E-11	-1.59E-8	2.64E-8
AP	mol H+ eq	2.04E-3	6.50E-5	9.74E-5	2.20E-3	3.06E-5	1.85E-4	1.63E-6	-9.03E-4	1.52E-3
EP-fw	kg P eq	1.09E-5	9.39E-8	3.75E-7	1.13E-5	4.43E-8	8.74E-7	2.12E-9	-6.12E-6	6.13E-6
EP-m	kg N eq	3.72E-4	2.33E-5	1.64E-5	4.11E-4	1.10E-5	5.65E-5	1.36E-6	-1.76E-4	3.04E-4
EP-T	mol N eq	4.09E-3	2.56E-4	1.85E-4	4.53E-3	1.21E-4	6.22E-4	6.61E-6	-1.98E-3	3.30E-3
POCP	kg NMVOC eq	1.74E-3	7.32E-5	5.74E-5	1.87E-3	3.45E-5	1.92E-4	2.47E-6	-7.92E-4	1.31E-3
ADP-mm	kg Sb eq	3.74E-5	2.95E-7	5.88E-7	3.83E-5	1.39E-7	7.04E-7	1.63E-9	-2.96E-6	3.62E-5
ADP-f	MJ	1.66E+1	1.75E-1	3.18E-1	1.71E+1	8.26E-2	5.38E-1	4.98E-3	-8.32E+0	9.39E+0
WDP	m3 depriv.	3.33E-1	5.37E-4	1.12E-1	4.46E-1	2.53E-4	1.08E-2	2.28E-5	-1.82E-1	2.75E-1
PM	disease inc.	2.14E-8	1.03E-9	9.75E-10	2.34E-8	4.86E-10	2.89E-9	3.42E-11	-1.01E-8	1.67E-8
IR	kBq U-235 eq	1.60E-2	7.65E-4	2.96E-4	1.71E-2	3.61E-4	1.67E-3	2.33E-5	-6.36E-3	1.28E-2
ETP-fw	CTUe	8.32E+0	1.42E-1	5.01E-1	8.96E+0	6.71E-2	7.52E-1	5.05E-3	-3.91E+0	5.88E+0
HTP-c	CTUh	1.71E-10	5.06E-12	2.67E-11	2.03E-10	2.39E-12	7.20E-11	1.22E-13	-8.36E-11	1.94E-10
HTP-nc	CTUh	4.10E-9	1.70E-10	5.54E-10	4.82E-9	7.99E-11	9.37E-10	2.89E-12	-2.03E-9	3.81E-9
SQP	Pt	7.29E+0	1.50E-1	5.79E-2	7.50E+0	7.06E-2	4.18E-1	1.28E-2	-1.07E+1	-2.73E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.29E+0	2.51E-3	1.10E+0	2.40E+0	1.18E-3	2.58E-2	1.99E-4	-1.87E+0	5.52E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.29E+0	2.51E-3	1.10E+0	2.40E+0	1.18E-3	2.58E-2	1.99E-4	-1.87E+0	5.52E-1
PENRE	MJ	1.78E+1	1.86E-1	3.47E-1	1.83E+1	8.77E-2	5.73E-1	5.28E-3	-8.98E+0	1.00E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.78E+1	1.86E-1	3.47E-1	1.83E+1	8.77E-2	5.73E-1	5.28E-3	-8.98E+0	1.00E+1
PET	MJ	1.91E+1	1.88E-1	1.45E+0	2.07E+1	8.89E-2	5.99E-1	5.48E-3	-1.08E+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	5.82E-3	1.98E-5	2.67E-3	8.51E-3	9.34E-6	4.01E-4	6.16E-6	-3.36E-3	5.57E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.99E-6	4.48E-7	3.09E-7	4.75E-6	2.11E-7	9.59E-7	5.97E-9	-3.10E-6	2.82E-6
NHWD	kg	3.10E-2	1.09E-2	3.01E-3	4.49E-2	5.12E-3	2.75E-2	2.19E-2	-1.11E-2	8.84E-2
RWD	kg	1.77E-5	1.19E-6	3.30E-7	1.93E-5	5.62E-7	2.14E-6	3.26E-8	-6.12E-6	1.59E-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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