Environmental Profile

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

Ecochain v3.5.64

Product:	3067835 - SiTech+ Branch STEA 87,5° 110X110 Swept
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	1.56E+0	2.87E-2	1.11E-1	1.70E+0	2.01E-2	8.43E-1	9.68E-3	-9.38E-1	1.63E+0
GWP-f	kg CO2 eq	1.68E+0	2.87E-2	9.46E-2	1.81E+0	2.01E-2	6.79E-1	9.68E-3	-1.01E+0	1.51E+0
GWP-b	kg CO2 eq	-1.26E-1	1.74E-5	7.99E-3	-1.18E-1	1.22E-5	1.64E-1	8.50E-6	7.05E-2	1.16E-1
GWP-luluc	kg CO2 eq	9.37E-4	1.02E-5	7.99E-3	8.94E-3	7.12E-6	1.13E-4	1.63E-7	-7.55E-4	8.30E-3
ODP	kg CFC11 eq	6.10E-8	6.62E-9	9.50E-9	7.72E-8	4.64E-9	1.57E-8	2.44E-10	-4.59E-8	5.18E-8
AP	mol H+ eq	6.32E-3	1.64E-4	3.82E-4	6.87E-3	1.15E-4	6.59E-4	5.81E-6	-3.06E-3	4.59E-3
EP-fw	kg P eq	3.04E-5	2.36E-7	1.47E-6	3.21E-5	1.66E-7	3.30E-6	7.53E-9	-1.74E-5	1.82E-5
EP-m	kg N eq	1.12E-3	5.85E-5	6.45E-5	1.25E-3	4.10E-5	1.96E-4	4.17E-6	-5.74E-4	9.15E-4
EP-T	mol N eq	1.25E-2	6.45E-4	7.25E-4	1.38E-2	4.52E-4	2.16E-3	2.36E-5	-6.42E-3	1.00E-2
POCP	kg NMVOC eq	5.48E-3	1.84E-4	2.25E-4	5.89E-3	1.29E-4	6.75E-4	8.85E-6	-2.72E-3	3.99E-3
ADP-mm	kg Sb eq	6.12E-5	7.43E-7	2.30E-6	6.42E-5	5.21E-7	2.57E-6	5.83E-9	-8.16E-6	5.92E-5
ADP-f	MJ	5.80E+1	4.41E-1	1.25E+0	5.97E+1	3.09E-1	2.01E+0	1.78E-2	-3.04E+1	3.16E+1
WDP	m3 depriv.	1.14E+0	1.35E-3	4.41E-1	1.59E+0	9.48E-4	3.94E-2	8.14E-5	-6.11E-1	1.02E+0
PM	disease inc.	6.15E-8	2.59E-9	3.82E-9	6.79E-8	1.82E-9	1.06E-8	1.22E-10	-3.10E-8	4.95E-8
IR	kBq U-235 eq	4.01E-2	1.93E-3	1.16E-3	4.32E-2	1.35E-3	6.16E-3	8.28E-5	-1.92E-2	3.15E-2
ETP-fw	CTUe	1.93E+1	3.58E-1	1.97E+0	2.16E+1	2.51E-1	2.47E+0	1.60E-2	-9.73E+0	1.46E+1
HTP-c	CTUh	4.80E-10	1.27E-11	1.05E-10	5.97E-10	8.93E-12	2.69E-10	4.30E-13	-2.46E-10	6.30E-10
HTP-nc	CTUh	1.20E-8	4.27E-10	2.17E-9	1.46E-8	2.99E-10	3.41E-9	9.82E-12	-6.22E-9	1.21E-8
SQP	Pt	1.64E+1	3.77E-1	2.27E-1	1.70E+1	2.64E-1	1.58E+0	4.56E-2	-2.33E+1	-4.35E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.09E+0	6.32E-3	4.31E+0	7.40E+0	4.43E-3	9.76E-2	6.99E-4	-4.15E+0	3.36E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.09E+0	6.32E-3	4.31E+0	7.40E+0	4.43E-3	9.76E-2	6.99E-4	-4.15E+0	3.36E+0
PENRE	MJ	6.22E+1	4.68E-1	1.36E+0	6.40E+1	3.28E-1	2.14E+0	1.89E-2	-3.28E+1	3.37E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.22E+1	4.68E-1	1.36E+0	6.40E+1	3.28E-1	2.14E+0	1.89E-2	-3.28E+1	3.37E+1
PET	MJ	6.53E+1	4.74E-1	5.67E+0	7.14E+1	3.32E-1	2.24E+0	1.96E-2	-3.69E+1	3.71E+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	1.83E-2	4.99E-5	1.05E-2	2.89E-2	3.50E-5	1.27E-3	2.20E-5	-1.04E-2	1.97E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.01E-5	1.13E-6	1.21E-6	1.24E-5	7.90E-7	3.40E-6	2.13E-8	-9.09E-6	7.57E-6
NHWD	kg	8.46E-2	2.73E-2	1.18E-2	1.24E-1	1.91E-2	9.97E-2	7.84E-2	-3.35E-2	2.87E-1
RWD	kg	3.99E-5	3.00E-6	1.29E-6	4.42E-5	2.10E-6	7.86E-6	1.16E-7	-1.80E-5	3.63E-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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