Environmental Profile

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

Ecochain v3.5.64

Product:	3067757 - SiTech+ Branch Reduced STEA 45° 110X50
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	9.69E-1	1.88E-2	6.95E-2	1.06E+0	1.26E-2	5.57E-1	6.06E-3	-5.85E-1	1.05E+0
GWP-f	kg CO2 eq	1.07E+0	1.88E-2	5.95E-2	1.15E+0	1.26E-2	4.30E-1	6.06E-3	-6.39E-1	9.56E-1
GWP-b	kg CO2 eq	-9.92E-2	1.14E-5	5.02E-3	-9.42E-2	7.63E-6	1.27E-1	5.32E-6	5.44E-2	8.74E-2
GWP-luluc	kg CO2 eq	6.59E-4	6.67E-6	5.02E-3	5.69E-3	4.45E-6	7.09E-5	1.02E-7	-5.53E-4	5.21E-3
ODP	kg CFC11 eq	4.12E-8	4.34E-9	5.97E-9	5.15E-8	2.90E-9	9.98E-9	1.52E-10	-3.00E-8	3.45E-8
AP	mol H+ eq	4.05E-3	1.07E-4	2.40E-4	4.40E-3	7.16E-5	4.17E-4	3.64E-6	-1.98E-3	2.91E-3
EP-fw	kg P eq	2.00E-5	1.55E-7	9.24E-7	2.10E-5	1.03E-7	2.07E-6	4.71E-9	-1.19E-5	1.13E-5
EP-m	kg N eq	7.30E-4	3.84E-5	4.05E-5	8.09E-4	2.56E-5	1.25E-4	2.63E-6	-3.75E-4	5.87E-4
EP-T	mol N eq	8.06E-3	4.23E-4	4.55E-4	8.94E-3	2.82E-4	1.37E-3	1.48E-5	-4.20E-3	6.41E-3
POCP	kg NMVOC eq	3.51E-3	1.21E-4	1.41E-4	3.77E-3	8.07E-5	4.29E-4	5.54E-6	-1.75E-3	2.54E-3
ADP-mm	kg Sb eq	4.08E-5	4.87E-7	1.45E-6	4.27E-5	3.25E-7	1.63E-6	3.65E-9	-5.28E-6	3.94E-5
ADP-f	MJ	3.65E+1	2.89E-1	7.82E-1	3.76E+1	1.93E-1	1.26E+0	1.11E-2	-1.91E+1	1.99E+1
WDP	m3 depriv.	7.21E-1	8.87E-4	2.77E-1	9.99E-1	5.92E-4	2.47E-2	5.10E-5	-3.96E-1	6.28E-1
PM	disease inc.	4.00E-8	1.70E-9	2.40E-9	4.41E-8	1.13E-9	6.71E-9	7.65E-11	-2.07E-8	3.13E-8
IR	kBq U-235 eq	2.61E-2	1.26E-3	7.30E-4	2.81E-2	8.43E-4	3.89E-3	5.18E-5	-1.28E-2	2.01E-2
ETP-fw	CTUe	1.35E+1	2.35E-1	1.23E+0	1.50E+1	1.57E-1	1.57E+0	1.01E-2	-6.95E+0	9.80E+0
HTP-c	CTUh	3.17E-10	8.35E-12	6.58E-11	3.91E-10	5.57E-12	1.70E-10	2.69E-13	-1.67E-10	3.99E-10
HTP-nc	CTUh	7.80E-9	2.80E-10	1.37E-9	9.45E-9	1.87E-10	2.15E-9	6.16E-12	-4.15E-9	7.64E-9
SQP	Pt	1.24E+1	2.47E-1	1.43E-1	1.28E+1	1.65E-1	9.93E-1	2.86E-2	-1.78E+1	-3.84E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.27E+0	4.15E-3	2.71E+0	4.98E+0	2.77E-3	6.12E-2	4.38E-4	-3.14E+0	1.90E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.27E+0	4.15E-3	2.71E+0	4.98E+0	2.77E-3	6.12E-2	4.38E-4	-3.14E+0	1.90E+0
PENRE	MJ	3.91E+1	3.07E-1	8.54E-1	4.03E+1	2.05E-1	1.35E+0	1.18E-2	-2.06E+1	2.12E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.91E+1	3.07E-1	8.54E-1	4.03E+1	2.05E-1	1.35E+0	1.18E-2	-2.06E+1	2.12E+1
PET	MJ	4.14E+1	3.11E-1	3.56E+0	4.53E+1	2.08E-1	1.41E+0	1.22E-2	-2.38E+1	2.31E+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	1.17E-2	3.27E-5	6.58E-3	1.83E-2	2.18E-5	8.03E-4	1.38E-5	-6.92E-3	1.22E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.74E-6	7.39E-7	7.60E-7	8.24E-6	4.93E-7	2.15E-6	1.34E-8	-5.95E-6	4.94E-6
NHWD	kg	5.61E-2	1.79E-2	7.41E-3	8.15E-2	1.20E-2	6.28E-2	4.91E-2	-2.25E-2	1.83E-1
RWD	kg	2.63E-5	1.97E-6	8.12E-7	2.90E-5	1.31E-6	4.97E-6	7.28E-8	-1.20E-5	2.34E-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

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