Environmental Profile

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

Ecochain v3.5.64

Product:	3067767 - SiTech+ Branch Reduced STEA 67,5° 75X50
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

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	4.26E-1	7.76E-3	2.94E-2	4.63E-1	5.42E-3	2.74E-1	2.64E-3	-2.51E-1	4.93E-1
GWP-f	kg CO2 eq	4.83E-1	7.75E-3	2.52E-2	5.16E-1	5.41E-3	2.00E-1	2.64E-3	-2.86E-1	4.38E-1
GWP-b	kg CO2 eq	-5.74E-2	4.71E-6	2.13E-3	-5.53E-2	3.29E-6	7.42E-2	2.33E-6	3.48E-2	5.38E-2
GWP-luluc	kg CO2 eq	3.66E-4	2.74E-6	2.12E-3	2.49E-3	1.92E-6	3.06E-5	4.48E-8	-3.24E-4	2.20E-3
ODP	kg CFC11 eq	2.31E-8	1.79E-9	2.53E-9	2.74E-8	1.25E-9	4.46E-9	6.66E-11	-1.46E-8	1.86E-8
AP	mol H+ eq	1.89E-3	4.41E-5	1.02E-4	2.03E-3	3.08E-5	1.86E-4	1.59E-6	-9.15E-4	1.34E-3
EP-fw	kg P eq	9.86E-6	6.38E-8	3.91E-7	1.03E-5	4.46E-8	8.96E-7	2.06E-9	-6.17E-6	5.09E-6
EP-m	kg N eq	3.48E-4	1.58E-5	1.71E-5	3.81E-4	1.10E-5	5.63E-5	1.20E-6	-1.77E-4	2.73E-4
EP-T	mol N eq	3.83E-3	1.74E-4	1.93E-4	4.19E-3	1.22E-4	6.19E-4	6.45E-6	-1.99E-3	2.95E-3
POCP	kg NMVOC eq	1.62E-3	4.98E-5	5.99E-5	1.73E-3	3.48E-5	1.92E-4	2.42E-6	-8.01E-4	1.16E-3
ADP-mm	kg Sb eq	2.38E-5	2.00E-7	6.13E-7	2.46E-5	1.40E-7	7.21E-7	1.59E-9	-2.56E-6	2.29E-5
ADP-f	MJ	1.62E+1	1.19E-1	3.31E-1	1.66E+1	8.31E-2	5.51E-1	4.86E-3	-8.38E+0	8.86E+0
WDP	m3 depriv.	3.21E-1	3.65E-4	1.17E-1	4.39E-1	2.55E-4	1.08E-2	2.23E-5	-1.86E-1	2.64E-1
PM	disease inc.	1.93E-8	7.00E-10	1.02E-9	2.10E-8	4.89E-10	2.96E-9	3.34E-11	-1.02E-8	1.43E-8
IR	kBq U-235 eq	1.32E-2	5.20E-4	3.09E-4	1.40E-2	3.63E-4	1.71E-3	2.27E-5	-6.32E-3	9.76E-3
ETP-fw	CTUe	7.61E+0	9.66E-2	5.23E-1	8.23E+0	6.75E-2	7.15E-1	4.57E-3	-3.91E+0	5.11E+0
HTP-c	CTUh	1.55E-10	3.44E-12	2.79E-11	1.87E-10	2.40E-12	7.41E-11	1.18E-13	-8.37E-11	1.80E-10
HTP-nc	CTUh	3.74E-9	1.15E-10	5.78E-10	4.43E-9	8.05E-11	9.44E-10	2.73E-12	-2.05E-9	3.41E-9
SQP	Pt	7.10E+0	1.02E-1	6.03E-2	7.26E+0	7.11E-2	4.30E-1	1.25E-2	-1.07E+1	-2.95E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.26E+0	1.71E-3	1.15E+0	2.41E+0	1.19E-3	2.65E-2	1.92E-4	-1.87E+0	5.64E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.26E+0	1.71E-3	1.15E+0	2.41E+0	1.19E-3	2.65E-2	1.92E-4	-1.87E+0	5.64E-1
PENRE	MJ	1.73E+1	1.26E-1	3.61E-1	1.78E+1	8.82E-2	5.87E-1	5.16E-3	-9.03E+0	9.46E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.73E+1	1.26E-1	3.61E-1	1.78E+1	8.82E-2	5.87E-1	5.16E-3	-9.03E+0	9.46E+0
PET	MJ	1.86E+1	1.28E-1	1.51E+0	2.02E+1	8.94E-2	6.14E-1	5.35E-3	-1.09E+1	1.00E+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	5.40E-3	1.35E-5	2.78E-3	8.19E-3	9.41E-6	3.67E-4	6.01E-6	-3.41E-3	5.17E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.45E-6	3.04E-7	3.22E-7	4.08E-6	2.13E-7	9.60E-7	5.84E-9	-2.89E-6	2.37E-6
NHWD	kg	2.81E-2	7.37E-3	3.14E-3	3.86E-2	5.15E-3	2.76E-2	2.14E-2	-1.11E-2	8.16E-2
RWD	kg	1.38E-5	8.09E-7	3.44E-7	1.49E-5	5.65E-7	2.20E-6	3.18E-8	-6.01E-6	1.17E-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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