Environmental Profile

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

Ecochain v3.5.64

Product:	3067763 - SiTech+ Branch STEA 45° 125X125
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	2.33E+0	3.49E-2	1.69E-1	2.54E+0	3.04E-2	1.33E+0	1.46E-2	-1.41E+0	2.50E+0
GWP-f	kg CO2 eq	2.57E+0	3.48E-2	1.45E-1	2.75E+0	3.04E-2	1.02E+0	1.46E-2	-1.54E+0	2.28E+0
GWP-b	kg CO2 eq	-2.41E-1	2.12E-5	1.22E-2	-2.28E-1	1.85E-5	3.09E-1	1.28E-5	1.32E-1	2.13E-1
GWP-luluc	kg CO2 eq	1.59E-3	1.23E-5	1.22E-2	1.38E-2	1.08E-5	1.72E-4	2.47E-7	-1.35E-3	1.26E-2
ODP	kg CFC11 eq	9.53E-8	8.03E-9	1.45E-8	1.18E-7	7.00E-9	2.42E-8	3.68E-10	-7.19E-8	7.75E-8
AP	mol H+ eq	9.71E-3	1.98E-4	5.83E-4	1.05E-2	1.73E-4	1.01E-3	8.77E-6	-4.79E-3	6.90E-3
EP-fw	kg P eq	4.78E-5	2.87E-7	2.25E-6	5.03E-5	2.50E-7	5.01E-6	1.14E-8	-2.88E-5	2.68E-5
EP-m	kg N eq	1.75E-3	7.10E-5	9.85E-5	1.92E-3	6.20E-5	3.02E-4	6.28E-6	-9.08E-4	1.39E-3
EP-T	mol N eq	1.94E-2	7.83E-4	1.11E-3	2.13E-2	6.83E-4	3.32E-3	3.56E-5	-1.02E-2	1.51E-2
POCP	kg NMVOC eq	8.42E-3	2.24E-4	3.44E-4	8.99E-3	1.95E-4	1.04E-3	1.34E-5	-4.23E-3	6.00E-3
ADP-mm	kg Sb eq	9.15E-5	9.01E-7	3.52E-6	9.60E-5	7.86E-7	3.95E-6	8.80E-9	-1.26E-5	8.81E-5
ADP-f	MJ	8.80E+1	5.35E-1	1.90E+0	9.04E+1	4.67E-1	3.06E+0	2.68E-2	-4.63E+1	4.77E+1
WDP	m3 depriv.	1.74E+0	1.64E-3	6.73E-1	2.41E+0	1.43E-3	5.97E-2	1.23E-4	-9.62E-1	1.51E+0
PM	disease inc.	9.56E-8	3.14E-9	5.84E-9	1.05E-7	2.74E-9	1.63E-8	1.84E-10	-5.01E-8	7.37E-8
IR	kBq U-235 eq	6.17E-2	2.34E-3	1.78E-3	6.58E-2	2.04E-3	9.42E-3	1.25E-4	-3.09E-2	4.65E-2
ETP-fw	CTUe	3.25E+1	4.34E-1	3.00E+0	3.59E+1	3.79E-1	3.77E+0	2.41E-2	-1.69E+1	2.32E+1
HTP-c	CTUh	7.58E-10	1.55E-11	1.60E-10	9.34E-10	1.35E-11	4.11E-10	6.50E-13	-4.05E-10	9.55E-10
HTP-nc	CTUh	1.87E-8	5.18E-10	3.32E-9	2.25E-8	4.52E-10	5.19E-9	1.48E-11	-1.01E-8	1.81E-8
SQP	Pt	3.01E+1	4.58E-1	3.47E-1	3.09E+1	3.99E-1	2.41E+0	6.89E-2	-4.34E+1	-9.63E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.48E+0	7.67E-3	6.58E+0	1.21E+1	6.69E-3	1.48E-1	1.06E-3	-7.64E+0	4.59E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.48E+0	7.67E-3	6.58E+0	1.21E+1	6.69E-3	1.48E-1	1.06E-3	-7.64E+0	4.59E+0
PENRE	MJ	9.44E+1	5.68E-1	2.08E+0	9.70E+1	4.95E-1	3.26E+0	2.85E-2	-4.99E+1	5.09E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.44E+1	5.68E-1	2.08E+0	9.70E+1	4.95E-1	3.26E+0	2.85E-2	-4.99E+1	5.09E+1
PET	MJ	9.99E+1	5.75E-1	8.66E+0	1.09E+2	5.02E-1	3.41E+0	2.95E-2	-5.75E+1	5.55E+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	2.80E-2	6.05E-5	1.60E-2	4.41E-2	5.28E-5	1.92E-3	3.32E-5	-1.68E-2	2.93E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.60E-5	1.37E-6	1.85E-6	1.93E-5	1.19E-6	5.21E-6	3.22E-8	-1.43E-5	1.14E-5
NHWD	kg	1.34E-1	3.31E-2	1.80E-2	1.86E-1	2.89E-2	1.52E-1	1.18E-1	-5.46E-2	4.30E-1
RWD	kg	6.15E-5	3.64E-6	1.97E-6	6.71E-5	3.17E-6	1.21E-5	1.75E-7	-2.91E-5	5.34E-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

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