Environmental Profile

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

Ecochain v3.5.64

Product:	3067773 - SiTech+ Branch Reduced STEA 87,5° 50X40
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	2.15E-1	5.32E-3	1.41E-2	2.34E-1	2.65E-3	1.45E-1	1.32E-3	-1.26E-1	2.58E-1
GWP-f	kg CO2 eq	2.44E-1	5.31E-3	1.21E-2	2.61E-1	2.65E-3	1.08E-1	1.32E-3	-1.42E-1	2.32E-1
GWP-b	kg CO2 eq	-2.90E-2	3.23E-6	1.02E-3	-2.80E-2	1.61E-6	3.65E-2	1.17E-6	1.60E-2	2.45E-2
GWP-luluc	kg CO2 eq	1.83E-4	1.88E-6	1.02E-3	1.20E-3	9.38E-7	1.47E-5	2.25E-8	-1.51E-4	1.07E-3
ODP	kg CFC11 eq	1.42E-8	1.22E-9	1.21E-9	1.67E-8	6.11E-10	2.15E-9	3.33E-11	-7.56E-9	1.19E-8
AP	mol H+ eq	9.77E-4	3.03E-5	4.87E-5	1.06E-3	1.51E-5	9.07E-5	7.97E-7	-4.41E-4	7.22E-4
EP-fw	kg P eq	5.14E-6	4.37E-8	1.88E-7	5.37E-6	2.18E-8	4.31E-7	1.03E-9	-2.92E-6	2.90E-6
EP-m	kg N eq	1.78E-4	1.08E-5	8.22E-6	1.97E-4	5.40E-6	2.76E-5	6.47E-7	-8.57E-5	1.45E-4
EP-T	mol N eq	1.96E-3	1.19E-4	9.24E-5	2.17E-3	5.95E-5	3.03E-4	3.23E-6	-9.63E-4	1.57E-3
POCP	kg NMVOC eq	8.37E-4	3.41E-5	2.87E-5	9.00E-4	1.70E-5	9.37E-5	1.21E-6	-3.88E-4	6.24E-4
ADP-mm	kg Sb eq	1.66E-5	1.37E-7	2.94E-7	1.70E-5	6.85E-8	3.46E-7	7.98E-10	-1.40E-6	1.60E-5
ADP-f	MJ	8.09E+0	8.15E-2	1.59E-1	8.33E+0	4.07E-2	2.65E-1	2.43E-3	-4.09E+0	4.55E+0
WDP	m3 depriv.	1.62E-1	2.50E-4	5.62E-2	2.18E-1	1.25E-4	5.32E-3	1.11E-5	-8.84E-2	1.35E-1
PM	disease inc.	1.02E-8	4.80E-10	4.88E-10	1.11E-8	2.39E-10	1.42E-9	1.67E-11	-4.87E-9	7.93E-9
IR	kBq U-235 eq	7.45E-3	3.56E-4	1.48E-4	7.95E-3	1.78E-4	8.23E-4	1.14E-5	-3.05E-3	5.91E-3
ETP-fw	CTUe	3.86E+0	6.62E-2	2.51E-1	4.17E+0	3.30E-2	3.63E-1	2.42E-3	-1.84E+0	2.73E+0
HTP-c	CTUh	8.16E-11	2.36E-12	1.34E-11	9.73E-11	1.18E-12	3.55E-11	5.93E-14	-4.06E-11	9.34E-11
HTP-nc	CTUh	1.95E-9	7.89E-11	2.77E-10	2.31E-9	3.94E-11	4.60E-10	1.40E-12	-9.79E-10	1.83E-9
SQP	Pt	3.56E+0	6.98E-2	2.89E-2	3.66E+0	3.48E-2	2.06E-1	6.24E-3	-5.11E+0	-1.21E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.28E-1	1.17E-3	5.50E-1	1.18E+0	5.84E-4	1.28E-2	9.70E-5	-8.89E-1	3.04E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.28E-1	1.17E-3	5.50E-1	1.18E+0	5.84E-4	1.28E-2	9.70E-5	-8.89E-1	3.04E-1
PENRE	MJ	8.67E+0	8.66E-2	1.73E-1	8.93E+0	4.32E-2	2.83E-1	2.58E-3	-4.41E+0	4.85E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.67E+0	8.66E-2	1.73E-1	8.93E+0	4.32E-2	2.83E-1	2.58E-3	-4.41E+0	4.85E+0
PET	MJ	9.30E+0	8.77E-2	7.23E-1	1.01E+1	4.38E-2	2.95E-1	2.68E-3	-5.30E+0	5.15E+0
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	2.79E-3	9.23E-6	1.34E-3	4.14E-3	4.60E-6	1.92E-4	3.01E-6	-1.62E-3	2.72E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.87E-6	2.09E-7	1.54E-7	2.24E-6	1.04E-7	4.69E-7	2.92E-9	-1.48E-6	1.33E-6
NHWD	kg	1.47E-2	5.05E-3	1.50E-3	2.13E-2	2.52E-3	1.35E-2	1.07E-2	-5.38E-3	4.26E-2
RWD	kg	8.14E-6	5.55E-7	1.65E-7	8.86E-6	2.77E-7	1.06E-6	1.59E-8	-2.93E-6	7.27E-6
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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