Environmental Profile

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

Ecochain v3.5.64

Product:	3067745 - SiTech+ Bend STB 87,5° 125
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	1.35E+0	1.99E-2	9.86E-2	1.47E+0	1.77E-2	7.47E-1	8.49E-3	-8.23E-1	1.42E+0
GWP-f	kg CO2 eq	1.48E+0	1.99E-2	8.44E-2	1.58E+0	1.77E-2	5.85E-1	8.49E-3	-8.88E-1	1.30E+0
GWP-b	kg CO2 eq	-1.27E-1	1.21E-5	7.13E-3	-1.20E-1	1.07E-5	1.62E-1	7.45E-6	6.58E-2	1.08E-1
GWP-luluc	kg CO2 eq	8.44E-4	7.03E-6	7.12E-3	7.97E-3	6.26E-6	1.00E-4	1.43E-7	-6.99E-4	7.38E-3
ODP	kg CFC11 eq	5.09E-8	4.58E-9	8.47E-9	6.40E-8	4.08E-9	1.39E-8	2.13E-10	-4.04E-8	4.18E-8
AP	mol H+ eq	5.53E-3	1.13E-4	3.40E-4	5.98E-3	1.01E-4	5.82E-4	5.09E-6	-2.73E-3	3.94E-3
EP-fw	kg P eq	2.67E-5	1.63E-7	1.31E-6	2.81E-5	1.46E-7	2.91E-6	6.59E-9	-1.57E-5	1.55E-5
EP-m	kg N eq	9.90E-4	4.05E-5	5.75E-5	1.09E-3	3.61E-5	1.73E-4	3.60E-6	-5.13E-4	7.88E-4
EP-T	mol N eq	1.10E-2	4.46E-4	6.46E-4	1.21E-2	3.98E-4	1.91E-3	2.07E-5	-5.74E-3	8.63E-3
POCP	kg NMVOC eq	4.80E-3	1.28E-4	2.01E-4	5.13E-3	1.14E-4	5.97E-4	7.75E-6	-2.42E-3	3.43E-3
ADP-mm	kg Sb eq	4.83E-5	5.14E-7	2.05E-6	5.09E-5	4.58E-7	2.28E-6	5.11E-9	-7.07E-6	4.65E-5
ADP-f	MJ	5.09E+1	3.05E-1	1.11E+0	5.23E+1	2.72E-1	1.77E+0	1.56E-2	-2.68E+1	2.75E+1
WDP	m3 depriv.	1.00E+0	9.36E-4	3.93E-1	1.40E+0	8.34E-4	3.46E-2	7.13E-5	-5.45E-1	8.87E-1
PM	disease inc.	5.38E-8	1.79E-9	3.41E-9	5.90E-8	1.60E-9	9.40E-9	1.07E-10	-2.79E-8	4.22E-8
IR	kBq U-235 eq	3.43E-2	1.33E-3	1.04E-3	3.67E-2	1.19E-3	5.45E-3	7.25E-5	-1.72E-2	2.62E-2
ETP-fw	CTUe	1.72E+1	2.48E-1	1.75E+0	1.92E+1	2.21E-1	2.16E+0	1.39E-2	-8.91E+0	1.27E+1
HTP-c	CTUh	4.24E-10	8.81E-12	9.34E-11	5.27E-10	7.85E-12	2.38E-10	3.77E-13	-2.24E-10	5.49E-10
HTP-nc	CTUh	1.06E-8	2.95E-10	1.94E-9	1.28E-8	2.63E-10	3.01E-9	8.56E-12	-5.60E-9	1.05E-8
SQP	Pt	1.59E+1	2.61E-1	2.02E-1	1.63E+1	2.32E-1	1.40E+0	4.00E-2	-2.23E+1	-4.29E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.93E+0	4.38E-3	3.84E+0	6.77E+0	3.90E-3	8.62E-2	6.12E-4	-3.94E+0	2.92E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.93E+0	4.38E-3	3.84E+0	6.77E+0	3.90E-3	8.62E-2	6.12E-4	-3.94E+0	2.92E+0
PENRE	MJ	5.46E+1	3.24E-1	1.21E+0	5.61E+1	2.88E-1	1.89E+0	1.65E-2	-2.89E+1	2.94E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.46E+1	3.24E-1	1.21E+0	5.61E+1	2.88E-1	1.89E+0	1.65E-2	-2.89E+1	2.94E+1
PET	MJ	5.75E+1	3.28E-1	5.05E+0	6.29E+1	2.92E-1	1.98E+0	1.71E-2	-3.28E+1	3.23E+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	1.60E-2	3.45E-5	9.33E-3	2.54E-2	3.07E-5	1.10E-3	1.92E-5	-9.35E-3	1.72E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.85E-6	7.80E-7	1.08E-6	1.07E-5	6.95E-7	3.00E-6	1.87E-8	-8.03E-6	6.39E-6
NHWD	kg	7.47E-2	1.89E-2	1.05E-2	1.04E-1	1.68E-2	8.79E-2	6.87E-2	-3.04E-2	2.47E-1
RWD	kg	3.37E-5	2.07E-6	1.15E-6	3.70E-5	1.85E-6	6.96E-6	1.02E-7	-1.61E-5	2.97E-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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