Environmental Profile

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

Ecochain v3.5.64

Product:	3067727 - SiTech+ Bend STB 45° 75
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	3.12E-1	4.89E-3	2.27E-2	3.40E-1	4.11E-3	1.97E-1	1.99E-3	-1.93E-1	3.50E-1
GWP-f	kg CO2 eq	3.55E-1	4.89E-3	1.94E-2	3.79E-1	4.11E-3	1.44E-1	1.99E-3	-2.12E-1	3.18E-1
GWP-b	kg CO2 eq	-4.30E-2	2.97E-6	1.64E-3	-4.13E-2	2.50E-6	5.27E-2	1.75E-6	1.94E-2	3.08E-2
GWP-luluc	kg CO2 eq	2.33E-4	1.73E-6	1.64E-3	1.87E-3	1.45E-6	2.32E-5	3.36E-8	-1.97E-4	1.70E-3
ODP	kg CFC11 eq	1.48E-8	1.13E-9	1.95E-9	1.79E-8	9.47E-10	3.29E-9	5.01E-11	-1.02E-8	1.19E-8
AP	mol H+ eq	1.36E-3	2.79E-5	7.82E-5	1.47E-3	2.34E-5	1.38E-4	1.20E-6	-6.63E-4	9.67E-4
EP-fw	kg P eq	6.82E-6	4.02E-8	3.01E-7	7.16E-6	3.38E-8	6.77E-7	1.55E-9	-4.08E-6	3.79E-6
EP-m	kg N eq	2.47E-4	9.97E-6	1.32E-5	2.70E-4	8.38E-6	4.13E-5	8.79E-7	-1.27E-4	1.94E-4
EP-T	mol N eq	2.73E-3	1.10E-4	1.48E-4	2.99E-3	9.23E-5	4.55E-4	4.85E-6	-1.42E-3	2.12E-3
POCP	kg NMVOC eq	1.18E-3	3.14E-5	4.61E-5	1.26E-3	2.64E-5	1.42E-4	1.82E-6	-5.87E-4	8.40E-4
ADP-mm	kg Sb eq	1.50E-5	1.27E-7	4.72E-7	1.56E-5	1.06E-7	5.36E-7	1.20E-9	-1.81E-6	1.44E-5
ADP-f	MJ	1.20E+1	7.51E-2	2.55E-1	1.24E+1	6.31E-2	4.14E-1	3.66E-3	-6.29E+0	6.56E+0
WDP	m3 depriv.	2.38E-1	2.30E-4	9.03E-2	3.29E-1	1.94E-4	8.11E-3	1.67E-5	-1.32E-1	2.05E-1
PM	disease inc.	1.37E-8	4.41E-10	7.83E-10	1.49E-8	3.71E-10	2.20E-9	2.51E-11	-7.08E-9	1.04E-8
IR	kBq U-235 eq	9.03E-3	3.28E-4	2.38E-4	9.60E-3	2.76E-4	1.28E-3	1.70E-5	-4.35E-3	6.82E-3
ETP-fw	CTUe	4.74E+0	6.10E-2	4.03E-1	5.21E+0	5.12E-2	5.21E-1	3.35E-3	-2.43E+0	3.35E+0
HTP-c	CTUh	1.11E-10	2.17E-12	2.15E-11	1.34E-10	1.82E-12	5.57E-11	8.86E-14	-5.93E-11	1.33E-10
HTP-nc	CTUh	2.65E-9	7.27E-11	4.45E-10	3.17E-9	6.11E-11	7.05E-10	2.03E-12	-1.42E-9	2.52E-9
SQP	Pt	5.02E+0	6.42E-2	4.65E-2	5.13E+0	5.40E-2	3.25E-1	9.39E-3	-6.85E+0	-1.33E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.85E-1	1.08E-3	8.83E-1	1.77E+0	9.05E-4	2.00E-2	1.44E-4	-1.19E+0	6.02E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.85E-1	1.08E-3	8.83E-1	1.77E+0	9.05E-4	2.00E-2	1.44E-4	-1.19E+0	6.02E-1
PENRE	MJ	1.29E+1	7.97E-2	2.78E-1	1.33E+1	6.70E-2	4.41E-1	3.88E-3	-6.78E+0	7.01E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.29E+1	7.97E-2	2.78E-1	1.33E+1	6.70E-2	4.41E-1	3.88E-3	-6.78E+0	7.01E+0
PET	MJ	1.38E+1	8.08E-2	1.16E+0	1.50E+1	6.79E-2	4.61E-1	4.02E-3	-7.97E+0	7.61E+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	3.91E-3	8.50E-6	2.14E-3	6.06E-3	7.14E-6	2.68E-4	4.52E-6	-2.33E-3	4.01E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.37E-6	1.92E-7	2.48E-7	2.81E-6	1.61E-7	7.10E-7	4.39E-9	-2.05E-6	1.63E-6
NHWD	kg	1.95E-2	4.65E-3	2.42E-3	2.65E-2	3.91E-3	2.07E-2	1.61E-2	-7.89E-3	5.93E-2
RWD	kg	9.22E-6	5.11E-7	2.65E-7	1.00E-5	4.29E-7	1.64E-6	2.39E-8	-4.12E-6	7.97E-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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