Environmental Profile

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

Ecochain v3.5.64

Product:	3067740 - SiTech+ Bend STB 87,5° 40
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	1.18E-1	2.72E-3	7.80E-3	1.29E-1	1.48E-3	7.57E-2	7.27E-4	-6.97E-2	1.37E-1
GWP-f	kg CO2 eq	1.33E-1	2.72E-3	6.68E-3	1.42E-1	1.48E-3	5.74E-2	7.27E-4	-7.76E-2	1.24E-1
GWP-b	kg CO2 eq	-1.44E-2	1.65E-6	5.64E-4	-1.38E-2	8.96E-7	1.82E-2	6.43E-7	7.97E-3	1.24E-2
GWP-luluc	kg CO2 eq	9.33E-5	9.61E-7	5.64E-4	6.58E-4	5.22E-7	8.22E-6	1.24E-8	-7.71E-5	5.90E-4
ODP	kg CFC11 eq	6.98E-9	6.26E-10	6.70E-10	8.28E-9	3.40E-10	1.19E-9	1.84E-11	-3.99E-9	5.84E-9
AP	mol H+ eq	5.22E-4	1.55E-5	2.69E-5	5.65E-4	8.41E-6	5.00E-5	4.39E-7	-2.40E-4	3.83E-4
EP-fw	kg P eq	2.69E-6	2.24E-8	1.04E-7	2.82E-6	1.21E-8	2.41E-7	5.69E-10	-1.54E-6	1.53E-6
EP-m	kg N eq	9.47E-5	5.54E-6	4.55E-6	1.05E-4	3.01E-6	1.51E-5	3.45E-7	-4.63E-5	7.69E-5
EP-T	mol N eq	1.04E-3	6.10E-5	5.11E-5	1.16E-3	3.32E-5	1.66E-4	1.78E-6	-5.20E-4	8.38E-4
POCP	kg NMVOC eq	4.49E-4	1.74E-5	1.59E-5	4.82E-4	9.48E-6	5.15E-5	6.66E-7	-2.12E-4	3.32E-4
ADP-mm	kg Sb eq	7.90E-6	7.03E-8	1.63E-7	8.13E-6	3.82E-8	1.92E-7	4.40E-10	-7.29E-7	7.64E-6
ADP-f	MJ	4.44E+0	4.17E-2	8.79E-2	4.57E+0	2.27E-2	1.48E-1	1.34E-3	-2.27E+0	2.47E+0
WDP	m3 depriv.	8.84E-2	1.28E-4	3.11E-2	1.20E-1	6.95E-5	2.94E-3	6.14E-6	-4.82E-2	7.44E-2
PM	disease inc.	5.35E-9	2.45E-10	2.70E-10	5.86E-9	1.33E-10	7.89E-10	9.21E-12	-2.60E-9	4.19E-9
IR	kBq U-235 eq	3.82E-3	1.82E-4	8.20E-5	4.08E-3	9.90E-5	4.57E-4	6.25E-6	-1.63E-3	3.02E-3
ETP-fw	CTUe	1.96E+0	3.39E-2	1.39E-1	2.13E+0	1.84E-2	1.96E-1	1.30E-3	-9.46E-1	1.40E+0
HTP-c	CTUh	4.27E-11	1.20E-12	7.39E-12	5.13E-11	6.55E-13	1.98E-11	3.26E-14	-2.15E-11	5.03E-11
HTP-nc	CTUh	1.03E-9	4.04E-11	1.53E-10	1.23E-9	2.19E-11	2.55E-10	7.63E-13	-5.23E-10	9.80E-10
SQP	Pt	1.78E+0	3.57E-2	1.60E-2	1.84E+0	1.94E-2	1.15E-1	3.44E-3	-2.56E+0	-5.87E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.19E-1	5.98E-4	3.04E-1	6.23E-1	3.25E-4	7.13E-3	5.33E-5	-4.47E-1	1.84E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.19E-1	5.98E-4	3.04E-1	6.23E-1	3.25E-4	7.13E-3	5.33E-5	-4.47E-1	1.84E-1
PENRE	MJ	4.76E+0	4.43E-2	9.59E-2	4.90E+0	2.41E-2	1.57E-1	1.42E-3	-2.44E+0	2.64E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.76E+0	4.43E-2	9.59E-2	4.90E+0	2.41E-2	1.57E-1	1.42E-3	-2.44E+0	2.64E+0
PET	MJ	5.08E+0	4.49E-2	4.00E-1	5.52E+0	2.44E-2	1.65E-1	1.48E-3	-2.89E+0	2.82E+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	1.50E-3	4.72E-6	7.39E-4	2.24E-3	2.56E-6	1.03E-4	1.66E-6	-8.67E-4	1.48E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.61E-7	1.07E-7	8.54E-8	1.15E-6	5.79E-8	2.58E-7	1.61E-9	-7.85E-7	6.86E-7
NHWD	kg	7.65E-3	2.58E-3	8.32E-4	1.11E-2	1.40E-3	7.47E-3	5.91E-3	-2.86E-3	2.30E-2
RWD	kg	4.09E-6	2.84E-7	9.12E-8	4.47E-6	1.54E-7	5.85E-7	8.77E-9	-1.55E-6	3.66E-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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