Environmental Profile

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

Ecochain v3.5.64

Product:	3067716 - SiTech+ Bend STB 30° 32
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	6.61E-2	1.17E-3	4.80E-3	7.20E-2	8.84E-4	5.06E-2	4.32E-4	-4.15E-2	8.25E-2
GWP-f	kg CO2 eq	8.05E-2	1.17E-3	4.11E-3	8.58E-2	8.83E-4	3.31E-2	4.32E-4	-4.77E-2	7.25E-2
GWP-b	kg CO2 eq	-1.45E-2	7.07E-7	3.47E-4	-1.41E-2	5.36E-7	1.75E-2	3.81E-7	6.27E-3	9.63E-3
GWP-luluc	kg CO2 eq	6.62E-5	4.12E-7	3.47E-4	4.14E-4	3.12E-7	5.00E-6	7.33E-9	-5.94E-5	3.59E-4
ODP	kg CFC11 eq	4.08E-9	2.68E-10	4.12E-10	4.76E-9	2.03E-10	7.40E-10	1.09E-11	-2.52E-9	3.19E-9
AP	mol H+ eq	3.18E-4	6.64E-6	1.66E-5	3.42E-4	5.03E-6	3.08E-5	2.60E-7	-1.56E-4	2.21E-4
EP-fw	kg P eq	1.70E-6	9.59E-9	6.38E-8	1.77E-6	7.26E-9	1.47E-7	3.37E-10	-1.09E-6	8.39E-7
EP-m	kg N eq	5.96E-5	2.37E-6	2.80E-6	6.48E-5	1.80E-6	9.37E-6	1.99E-7	-3.08E-5	4.54E-5
EP-T	mol N eq	6.54E-4	2.62E-5	3.15E-5	7.12E-4	1.98E-5	1.03E-4	1.06E-6	-3.47E-4	4.89E-4
POCP	kg NMVOC eq	2.75E-4	7.48E-6	9.77E-6	2.92E-4	5.67E-6	3.20E-5	3.95E-7	-1.38E-4	1.93E-4
ADP-mm	kg Sb eq	4.15E-6	3.01E-8	1.00E-7	4.28E-6	2.28E-8	1.19E-7	2.61E-10	-4.41E-7	3.98E-6
ADP-f	MJ	2.66E+0	1.79E-2	5.41E-2	2.74E+0	1.36E-2	9.07E-2	7.95E-4	-1.38E+0	1.46E+0
WDP	m3 depriv.	5.30E-2	5.49E-5	1.91E-2	7.22E-2	4.16E-5	1.77E-3	3.64E-6	-3.13E-2	4.27E-2
PM	disease inc.	3.34E-9	1.05E-10	1.66E-10	3.61E-9	7.97E-11	4.88E-10	5.46E-12	-1.81E-9	2.38E-9
IR	kBq U-235 eq	2.26E-3	7.82E-5	5.05E-5	2.39E-3	5.92E-5	2.83E-4	3.71E-6	-1.10E-3	1.63E-3
ETP-fw	CTUe	1.35E+0	1.45E-2	8.53E-2	1.45E+0	1.10E-2	1.19E-1	7.53E-4	-7.02E-1	8.76E-1
HTP-c	CTUh	2.81E-11	5.17E-13	4.55E-12	3.32E-11	3.92E-13	1.22E-11	1.93E-14	-1.58E-11	3.00E-11
HTP-nc	CTUh	6.41E-10	1.73E-11	9.44E-11	7.53E-10	1.31E-11	1.55E-10	4.48E-13	-3.61E-10	5.61E-10
SQP	Pt	1.61E+0	1.53E-2	9.85E-3	1.64E+0	1.16E-2	7.06E-2	2.04E-3	-2.22E+0	-4.94E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.73E-1	2.57E-4	1.87E-1	4.61E-1	1.94E-4	4.34E-3	3.15E-5	-3.79E-1	8.64E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.73E-1	2.57E-4	1.87E-1	4.61E-1	1.94E-4	4.34E-3	3.15E-5	-3.79E-1	8.64E-2
PENRE	MJ	2.86E+0	1.90E-2	5.90E-2	2.94E+0	1.44E-2	9.66E-2	8.44E-4	-1.49E+0	1.56E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.86E+0	1.90E-2	5.90E-2	2.94E+0	1.44E-2	9.66E-2	8.44E-4	-1.49E+0	1.56E+0
PET	MJ	3.13E+0	1.92E-2	2.46E-1	3.40E+0	1.46E-2	1.01E-1	8.75E-4	-1.87E+0	1.64E+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	9.02E-4	2.02E-6	4.54E-4	1.36E-3	1.53E-6	6.08E-5	9.83E-7	-5.83E-4	8.39E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.18E-7	4.57E-8	5.25E-8	7.16E-7	3.47E-8	1.59E-7	9.54E-10	-5.10E-7	4.01E-7
NHWD	kg	4.98E-3	1.11E-3	5.12E-4	6.60E-3	8.40E-4	4.55E-3	3.50E-3	-2.06E-3	1.34E-2
RWD	kg	2.39E-6	1.22E-7	5.61E-8	2.56E-6	9.22E-8	3.64E-7	5.20E-9	-1.06E-6	1.97E-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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