Environmental Profile

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

Ecochain v3.5.64

Product:	3067719 - SiTech+ Bend STB 30° 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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.94E-1	4.67E-3	2.13E-2	3.20E-1	3.88E-3	1.90E-1	1.88E-3	-1.82E-1	3.34E-1
GWP-f	kg CO2 eq	3.37E-1	4.67E-3	1.82E-2	3.60E-1	3.87E-3	1.37E-1	1.88E-3	-2.01E-1	3.02E-1
GWP-b	kg CO2 eq	-4.31E-2	2.83E-6	1.54E-3	-4.15E-2	2.35E-6	5.28E-2	1.65E-6	1.94E-2	3.07E-2
GWP-luluc	kg CO2 eq	2.28E-4	1.65E-6	1.54E-3	1.77E-3	1.37E-6	2.18E-5	3.18E-8	-1.95E-4	1.60E-3
ODP	kg CFC11 eq	1.45E-8	1.08E-9	1.83E-9	1.74E-8	8.92E-10	3.12E-9	4.73E-11	-9.84E-9	1.17E-8
AP	mol H+ eq	1.30E-3	2.66E-5	7.36E-5	1.40E-3	2.21E-5	1.30E-4	1.13E-6	-6.32E-4	9.20E-4
EP-fw	kg P eq	6.56E-6	3.84E-8	2.83E-7	6.88E-6	3.19E-8	6.38E-7	1.46E-9	-3.96E-6	3.60E-6
EP-m	kg N eq	2.36E-4	9.51E-6	1.24E-5	2.58E-4	7.89E-6	3.92E-5	8.35E-7	-1.21E-4	1.85E-4
EP-T	mol N eq	2.61E-3	1.05E-4	1.40E-4	2.85E-3	8.70E-5	4.31E-4	4.58E-6	-1.36E-3	2.01E-3
POCP	kg NMVOC eq	1.12E-3	3.00E-5	4.34E-5	1.20E-3	2.49E-5	1.34E-4	1.72E-6	-5.59E-4	7.99E-4
ADP-mm	kg Sb eq	1.47E-5	1.21E-7	4.44E-7	1.53E-5	1.00E-7	5.07E-7	1.13E-9	-1.74E-6	1.42E-5
ADP-f	MJ	1.14E+1	7.17E-2	2.40E-1	1.17E+1	5.94E-2	3.91E-1	3.45E-3	-5.95E+0	6.21E+0
WDP	m3 depriv.	2.26E-1	2.20E-4	8.49E-2	3.11E-1	1.82E-4	7.66E-3	1.58E-5	-1.26E-1	1.93E-1
PM	disease inc.	1.31E-8	4.21E-10	7.37E-10	1.43E-8	3.50E-10	2.08E-9	2.37E-11	-6.82E-9	9.89E-9
IR	kBq U-235 eq	8.71E-3	3.13E-4	2.24E-4	9.25E-3	2.60E-4	1.21E-3	1.61E-5	-4.19E-3	6.54E-3
ETP-fw	CTUe	4.66E+0	5.82E-2	3.79E-1	5.09E+0	4.83E-2	4.95E-1	3.18E-3	-2.39E+0	3.25E+0
HTP-c	CTUh	1.07E-10	2.07E-12	2.02E-11	1.29E-10	1.72E-12	5.26E-11	8.37E-14	-5.74E-11	1.26E-10
HTP-nc	CTUh	2.54E-9	6.94E-11	4.19E-10	3.03E-9	5.75E-11	6.67E-10	1.92E-12	-1.37E-9	2.39E-9
SQP	Pt	5.00E+0	6.13E-2	4.37E-2	5.10E+0	5.09E-2	3.07E-1	8.86E-3	-6.84E+0	-1.37E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.76E-1	1.03E-3	8.30E-1	1.71E+0	8.53E-4	1.89E-2	1.36E-4	-1.18E+0	5.43E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.76E-1	1.03E-3	8.30E-1	1.71E+0	8.53E-4	1.89E-2	1.36E-4	-1.18E+0	5.43E-1
PENRE	MJ	1.22E+1	7.61E-2	2.62E-1	1.26E+1	6.31E-2	4.17E-1	3.66E-3	-6.41E+0	6.64E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.22E+1	7.61E-2	2.62E-1	1.26E+1	6.31E-2	4.17E-1	3.66E-3	-6.41E+0	6.64E+0
PET	MJ	1.31E+1	7.71E-2	1.09E+0	1.43E+1	6.40E-2	4.36E-1	3.80E-3	-7.59E+0	7.18E+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	3.72E-3	8.11E-6	2.02E-3	5.75E-3	6.73E-6	2.54E-4	4.27E-6	-2.24E-3	3.77E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.29E-6	1.83E-7	2.33E-7	2.71E-6	1.52E-7	6.73E-7	4.14E-9	-1.97E-6	1.57E-6
NHWD	kg	1.88E-2	4.44E-3	2.27E-3	2.55E-2	3.68E-3	1.95E-2	1.52E-2	-7.63E-3	5.63E-2
RWD	kg	8.94E-6	4.87E-7	2.49E-7	9.68E-6	4.04E-7	1.55E-6	2.26E-8	-3.97E-6	7.68E-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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