Environmental Profile

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

Ecochain v3.5.64

Product:	3067732 - SiTech+ Bend STB 67,5° 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	7.21E-2	1.24E-3	5.25E-3	7.86E-2	9.63E-4	5.29E-2	4.69E-4	-4.52E-2	8.78E-2
GWP-f	kg CO2 eq	8.65E-2	1.24E-3	4.49E-3	9.22E-2	9.62E-4	3.54E-2	4.69E-4	-5.14E-2	7.77E-2
GWP-b	kg CO2 eq	-1.45E-2	7.53E-7	3.80E-4	-1.41E-2	5.84E-7	1.75E-2	4.13E-7	6.26E-3	9.67E-3
GWP-luluc	kg CO2 eq	6.77E-5	4.39E-7	3.79E-4	4.48E-4	3.40E-7	5.44E-6	7.95E-9	-6.01E-5	3.93E-4
ODP	kg CFC11 eq	4.18E-9	2.86E-10	4.51E-10	4.92E-9	2.22E-10	7.98E-10	1.18E-11	-2.66E-9	3.29E-9
AP	mol H+ eq	3.39E-4	7.06E-6	1.81E-5	3.65E-4	5.48E-6	3.33E-5	2.82E-7	-1.67E-4	2.37E-4
EP-fw	kg P eq	1.79E-6	1.02E-8	6.98E-8	1.87E-6	7.91E-9	1.60E-7	3.66E-10	-1.13E-6	9.05E-7
EP-m	kg N eq	6.31E-5	2.53E-6	3.06E-6	6.87E-5	1.96E-6	1.01E-5	2.14E-7	-3.26E-5	4.84E-5
EP-T	mol N eq	6.94E-4	2.78E-5	3.44E-5	7.56E-4	2.16E-5	1.11E-4	1.15E-6	-3.67E-4	5.23E-4
POCP	kg NMVOC eq	2.93E-4	7.96E-6	1.07E-5	3.12E-4	6.18E-6	3.44E-5	4.29E-7	-1.47E-4	2.06E-4
ADP-mm	kg Sb eq	4.23E-6	3.21E-8	1.09E-7	4.37E-6	2.49E-8	1.29E-7	2.83E-10	-4.65E-7	4.06E-6
ADP-f	MJ	2.88E+0	1.90E-2	5.92E-2	2.96E+0	1.48E-2	9.84E-2	8.63E-4	-1.50E+0	1.57E+0
WDP	m3 depriv.	5.72E-2	5.84E-5	2.09E-2	7.82E-2	4.53E-5	1.92E-3	3.95E-6	-3.33E-2	4.68E-2
PM	disease inc.	3.52E-9	1.12E-10	1.82E-10	3.82E-9	8.68E-11	5.28E-10	5.93E-12	-1.89E-9	2.55E-9
IR	kBq U-235 eq	2.37E-3	8.32E-5	5.52E-5	2.51E-3	6.45E-5	3.06E-4	4.02E-6	-1.16E-3	1.73E-3
ETP-fw	CTUe	1.38E+0	1.54E-2	9.33E-2	1.49E+0	1.20E-2	1.27E-1	8.10E-4	-7.17E-1	9.10E-1
HTP-c	CTUh	2.95E-11	5.50E-13	4.98E-12	3.50E-11	4.27E-13	1.32E-11	2.10E-14	-1.64E-11	3.23E-11
HTP-nc	CTUh	6.78E-10	1.84E-11	1.03E-10	8.00E-10	1.43E-11	1.68E-10	4.85E-13	-3.78E-10	6.05E-10
SQP	Pt	1.62E+0	1.63E-2	1.08E-2	1.65E+0	1.26E-2	7.67E-2	2.22E-3	-2.22E+0	-4.81E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.76E-1	2.73E-4	2.05E-1	4.81E-1	2.12E-4	4.72E-3	3.41E-5	-3.80E-1	1.06E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.76E-1	2.73E-4	2.05E-1	4.81E-1	2.12E-4	4.72E-3	3.41E-5	-3.80E-1	1.06E-1
PENRE	MJ	3.09E+0	2.02E-2	6.45E-2	3.17E+0	1.57E-2	1.05E-1	9.16E-4	-1.61E+0	1.68E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.09E+0	2.02E-2	6.45E-2	3.17E+0	1.57E-2	1.05E-1	9.16E-4	-1.61E+0	1.68E+0
PET	MJ	3.37E+0	2.05E-2	2.69E-1	3.66E+0	1.59E-2	1.10E-1	9.50E-4	-1.99E+0	1.79E+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	9.65E-4	2.15E-6	4.97E-4	1.46E-3	1.67E-6	6.53E-5	1.07E-6	-6.13E-4	9.19E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.42E-7	4.87E-8	5.75E-8	7.49E-7	3.78E-8	1.72E-7	1.04E-9	-5.36E-7	4.23E-7
NHWD	kg	5.21E-3	1.18E-3	5.60E-4	6.94E-3	9.15E-4	4.92E-3	3.80E-3	-2.15E-3	1.44E-2
RWD	kg	2.48E-6	1.29E-7	6.14E-8	2.67E-6	1.00E-7	3.93E-7	5.65E-9	-1.10E-6	2.06E-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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