Environmental Profile

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

Ecochain v3.5.64

Product:	3067841 - SiTech+ Trap bend STSW 32x1 1/4"
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	8.59E-2	1.16E-3	9.15E-3	9.63E-2	6.32E-4	6.58E-2	2.98E-4	-4.59E-2	1.17E-1
GWP-f	kg CO2 eq	1.01E-1	1.16E-3	7.83E-3	1.10E-1	6.32E-4	4.75E-2	2.98E-4	-5.39E-2	1.04E-1
GWP-b	kg CO2 eq	-1.50E-2	7.04E-7	6.62E-4	-1.43E-2	3.84E-7	1.83E-2	2.60E-7	8.08E-3	1.20E-2
GWP-luluc	kg CO2 eq	1.02E-4	4.10E-7	6.61E-4	7.64E-4	2.24E-7	4.02E-6	4.99E-9	-7.06E-5	6.97E-4
ODP	kg CFC11 eq	4.05E-9	2.67E-10	7.86E-10	5.10E-9	1.46E-10	6.63E-10	7.47E-12	-3.75E-9	2.16E-9
AP	mol H+ eq	4.17E-4	6.60E-6	3.16E-5	4.55E-4	3.60E-6	2.86E-5	1.78E-7	-1.49E-4	3.39E-4
EP-fw	kg P eq	2.79E-6	9.53E-9	1.22E-7	2.92E-6	5.20E-9	1.19E-7	2.30E-10	-1.16E-6	1.88E-6
EP-m	kg N eq	8.04E-5	2.36E-6	5.34E-6	8.81E-5	1.29E-6	9.28E-6	1.16E-7	-3.15E-5	6.72E-5
EP-T	mol N eq	8.86E-4	2.60E-5	6.00E-5	9.72E-4	1.42E-5	1.02E-4	7.22E-7	-3.56E-4	7.33E-4
POCP	kg NMVOC eq	3.55E-4	7.44E-6	1.86E-5	3.81E-4	4.06E-6	3.11E-5	2.71E-7	-1.33E-4	2.84E-4
ADP-mm	kg Sb eq	1.47E-6	3.00E-8	1.91E-7	1.69E-6	1.63E-8	1.03E-7	1.79E-10	-2.93E-7	1.51E-6
ADP-f	MJ	2.94E+0	1.78E-2	1.03E-1	3.07E+0	9.70E-3	7.58E-2	5.45E-4	-1.35E+0	1.80E+0
WDP	m3 depriv.	5.80E-2	5.46E-5	3.65E-2	9.45E-2	2.98E-5	1.37E-3	2.49E-6	-2.97E-2	6.62E-2
PM	disease inc.	3.93E-9	1.05E-10	3.16E-10	4.35E-9	5.70E-11	4.36E-10	3.74E-12	-1.78E-9	3.06E-9
IR	kBq U-235 eq	2.81E-3	7.77E-5	9.62E-5	2.98E-3	4.24E-5	2.44E-4	2.53E-6	-1.13E-3	2.14E-3
ETP-fw	CTUe	1.91E+0	1.44E-2	1.63E-1	2.08E+0	7.87E-3	9.60E-2	4.56E-4	-8.17E-1	1.37E+0
HTP-c	CTUh	3.52E-11	5.14E-13	8.67E-12	4.44E-11	2.80E-13	1.32E-11	1.31E-14	-1.63E-11	4.16E-11
HTP-nc	CTUh	8.30E-10	1.72E-11	1.80E-10	1.03E-9	9.39E-12	1.49E-10	2.92E-13	-3.65E-10	8.21E-10
SQP	Pt	1.78E+0	1.52E-2	1.88E-2	1.82E+0	8.30E-3	5.89E-2	1.40E-3	-2.53E+0	-6.49E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.16E-1	2.55E-4	3.57E-1	6.73E-1	1.39E-4	3.50E-3	2.12E-5	-4.34E-1	2.43E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.16E-1	2.55E-4	3.57E-1	6.73E-1	1.39E-4	3.50E-3	2.12E-5	-4.34E-1	2.43E-1
PENRE	MJ	3.16E+0	1.89E-2	1.12E-1	3.29E+0	1.03E-2	8.08E-2	5.78E-4	-1.46E+0	1.92E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.16E+0	1.89E-2	1.12E-1	3.29E+0	1.03E-2	8.08E-2	5.78E-4	-1.46E+0	1.92E+0
PET	MJ	3.47E+0	1.91E-2	4.69E-1	3.96E+0	1.04E-2	8.43E-2	5.99E-4	-1.90E+0	2.16E+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	1.13E-3	2.01E-6	8.66E-4	2.00E-3	1.10E-6	4.57E-5	6.73E-7	-5.91E-4	1.46E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.16E-6	4.55E-8	1.00E-7	1.30E-6	2.48E-8	1.39E-7	6.54E-10	-7.51E-7	7.18E-7
NHWD	kg	7.58E-3	1.10E-3	9.76E-4	9.66E-3	6.01E-4	4.87E-3	2.40E-3	-2.06E-3	1.55E-2
RWD	kg	2.52E-6	1.21E-7	1.07E-7	2.75E-6	6.59E-8	3.19E-7	3.56E-9	-1.11E-6	2.03E-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

Ecochain

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777