Environmental Profile

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

Ecochain v3.5.64

Product:	3067775 - SiTech+ Branch Reduced STEA 87,5° 75X50
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	4.24E-1	7.73E-3	2.94E-2	4.61E-1	5.39E-3	2.73E-1	2.63E-3	-2.50E-1	4.92E-1
GWP-f	kg CO2 eq	4.81E-1	7.72E-3	2.52E-2	5.14E-1	5.39E-3	1.99E-1	2.63E-3	-2.85E-1	4.36E-1
GWP-b	kg CO2 eq	-5.74E-2	4.69E-6	2.13E-3	-5.53E-2	3.27E-6	7.42E-2	2.32E-6	3.48E-2	5.38E-2
GWP-luluc	kg CO2 eq	3.65E-4	2.73E-6	2.12E-3	2.49E-3	1.91E-6	3.04E-5	4.46E-8	-3.24E-4	2.20E-3
ODP	kg CFC11 eq	2.31E-8	1.78E-9	2.53E-9	2.74E-8	1.24E-9	4.44E-9	6.63E-11	-1.45E-8	1.86E-8
AP	mol H+ eq	1.88E-3	4.40E-5	1.02E-4	2.03E-3	3.07E-5	1.85E-4	1.58E-6	-9.11E-4	1.33E-3
EP-fw	kg P eq	9.83E-6	6.36E-8	3.91E-7	1.03E-5	4.43E-8	8.92E-7	2.05E-9	-6.16E-6	5.07E-6
EP-m	kg N eq	3.47E-4	1.57E-5	1.71E-5	3.80E-4	1.10E-5	5.60E-5	1.20E-6	-1.77E-4	2.72E-4
EP-T	mol N eq	3.81E-3	1.74E-4	1.93E-4	4.18E-3	1.21E-4	6.16E-4	6.42E-6	-1.99E-3	2.94E-3
POCP	kg NMVOC eq	1.62E-3	4.96E-5	5.99E-5	1.73E-3	3.46E-5	1.92E-4	2.41E-6	-7.98E-4	1.16E-3
ADP-mm	kg Sb eq	2.38E-5	2.00E-7	6.13E-7	2.46E-5	1.39E-7	7.18E-7	1.59E-9	-2.56E-6	2.29E-5
ADP-f	MJ	1.61E+1	1.19E-1	3.31E-1	1.65E+1	8.27E-2	5.49E-1	4.84E-3	-8.34E+0	8.83E+0
WDP	m3 depriv.	3.20E-1	3.64E-4	1.17E-1	4.37E-1	2.54E-4	1.07E-2	2.22E-5	-1.85E-1	2.63E-1
PM	disease inc.	1.93E-8	6.97E-10	1.02E-9	2.10E-8	4.86E-10	2.94E-9	3.32E-11	-1.02E-8	1.43E-8
IR	kBq U-235 eq	1.31E-2	5.18E-4	3.09E-4	1.39E-2	3.62E-4	1.70E-3	2.26E-5	-6.30E-3	9.73E-3
ETP-fw	CTUe	7.60E+0	9.63E-2	5.23E-1	8.22E+0	6.72E-2	7.12E-1	4.55E-3	-3.90E+0	5.10E+0
HTP-c	CTUh	1.55E-10	3.43E-12	2.79E-11	1.86E-10	2.39E-12	7.38E-11	1.17E-13	-8.35E-11	1.79E-10
HTP-nc	CTUh	3.72E-9	1.15E-10	5.78E-10	4.42E-9	8.01E-11	9.39E-10	2.72E-12	-2.04E-9	3.40E-9
SQP	Pt	7.10E+0	1.01E-1	6.03E-2	7.26E+0	7.08E-2	4.28E-1	1.24E-2	-1.07E+1	-2.96E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.26E+0	1.70E-3	1.15E+0	2.41E+0	1.19E-3	2.64E-2	1.91E-4	-1.87E+0	5.63E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.26E+0	1.70E-3	1.15E+0	2.41E+0	1.19E-3	2.64E-2	1.91E-4	-1.87E+0	5.63E-1
PENRE	MJ	1.72E+1	1.26E-1	3.61E-1	1.77E+1	8.78E-2	5.85E-1	5.13E-3	-8.99E+0	9.42E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.72E+1	1.26E-1	3.61E-1	1.77E+1	8.78E-2	5.85E-1	5.13E-3	-8.99E+0	9.42E+0
PET	MJ	1.85E+1	1.28E-1	1.51E+0	2.01E+1	8.90E-2	6.11E-1	5.33E-3	-1.09E+1	9.99E+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	5.38E-3	1.34E-5	2.78E-3	8.17E-3	9.36E-6	3.65E-4	5.98E-6	-3.40E-3	5.16E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.45E-6	3.03E-7	3.22E-7	4.07E-6	2.12E-7	9.56E-7	5.81E-9	-2.88E-6	2.37E-6
NHWD	kg	2.80E-2	7.35E-3	3.14E-3	3.85E-2	5.13E-3	2.75E-2	2.13E-2	-1.11E-2	8.13E-2
RWD	kg	1.37E-5	8.06E-7	3.44E-7	1.49E-5	5.63E-7	2.19E-6	3.16E-8	-5.99E-6	1.17E-5
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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