Environmental Profile

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

Ecochain v3.5.64

Product:	3085647 - SiTech+ Pipe IJM STEM 75 L=0,15 S/PL
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

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	4.28E-1	6.33E-3	2.61E-2	4.61E-1	5.64E-3	2.41E-1	2.71E-3	-2.64E-1	4.47E-1
GWP-f	kg CO2 eq	4.71E-1	6.33E-3	2.23E-2	4.99E-1	5.64E-3	1.89E-1	2.71E-3	-2.83E-1	4.14E-1
GWP-b	kg CO2 eq	-4.25E-2	3.84E-6	1.89E-3	-4.06E-2	3.42E-6	5.27E-2	2.38E-6	1.91E-2	3.13E-2
GWP-luluc	kg CO2 eq	2.61E-4	2.24E-6	1.89E-3	2.15E-3	1.99E-6	3.17E-5	4.57E-8	-2.11E-4	1.97E-3
ODP	kg CFC11 eq	1.67E-8	1.46E-9	2.24E-9	2.04E-8	1.30E-9	4.41E-9	6.81E-11	-1.29E-8	1.33E-8
AP	mol H+ eq	1.76E-3	3.60E-5	9.01E-5	1.89E-3	3.21E-5	1.85E-4	1.62E-6	-8.62E-4	1.25E-3
EP-fw	kg P eq	8.45E-6	5.21E-8	3.47E-7	8.85E-6	4.64E-8	9.24E-7	2.11E-9	-4.86E-6	4.97E-6
EP-m	kg N eq	3.14E-4	1.29E-5	1.52E-5	3.42E-4	1.15E-5	5.49E-5	1.16E-6	-1.62E-4	2.48E-4
EP-T	mol N eq	3.47E-3	1.42E-4	1.71E-4	3.79E-3	1.27E-4	6.04E-4	6.60E-6	-1.81E-3	2.71E-3
POCP	kg NMVOC eq	1.53E-3	4.06E-5	5.31E-5	1.63E-3	3.62E-5	1.89E-4	2.47E-6	-7.66E-4	1.09E-3
ADP-mm	kg Sb eq	1.62E-5	1.64E-7	5.44E-7	1.69E-5	1.46E-7	7.21E-7	1.63E-9	-2.28E-6	1.55E-5
ADP-f	MJ	1.62E+1	9.71E-2	2.94E-1	1.66E+1	8.65E-2	5.63E-1	4.97E-3	-8.53E+0	8.73E+0
WDP	m3 depriv.	3.20E-1	2.98E-4	1.04E-1	4.24E-1	2.66E-4	1.10E-2	2.28E-5	-1.71E-1	2.65E-1
PM	disease inc.	1.72E-8	5.71E-10	9.02E-10	1.86E-8	5.09E-10	2.98E-9	3.42E-11	-8.75E-9	1.34E-8
IR	kBq U-235 eq	1.11E-2	4.24E-4	2.74E-4	1.18E-2	3.78E-4	1.73E-3	2.31E-5	-5.39E-3	8.53E-3
ETP-fw	CTUe	5.30E+0	7.88E-2	4.64E-1	5.84E+0	7.03E-2	6.89E-1	4.46E-3	-2.71E+0	3.90E+0
HTP-c	CTUh	1.35E-10	2.81E-12	2.47E-11	1.62E-10	2.50E-12	7.56E-11	1.20E-13	-7.11E-11	1.69E-10
HTP-nc	CTUh	3.35E-9	9.40E-11	5.13E-10	3.96E-9	8.38E-11	9.54E-10	2.74E-12	-1.75E-9	3.24E-9
SQP	Pt	5.14E+0	8.31E-2	5.35E-2	5.28E+0	7.40E-2	4.44E-1	1.28E-2	-6.91E+0	-1.10E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.43E-1	1.39E-3	1.02E+0	1.96E+0	1.24E-3	2.74E-2	1.96E-4	-1.22E+0	7.74E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.43E-1	1.39E-3	1.02E+0	1.96E+0	1.24E-3	2.74E-2	1.96E-4	-1.22E+0	7.74E-1
PENRE	MJ	1.74E+1	1.03E-1	3.21E-1	1.78E+1	9.19E-2	6.00E-1	5.28E-3	-9.19E+0	9.33E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.74E+1	1.03E-1	3.21E-1	1.78E+1	9.19E-2	6.00E-1	5.28E-3	-9.19E+0	9.33E+0
PET	MJ	1.83E+1	1.04E-1	1.34E+0	1.98E+1	9.31E-2	6.27E-1	5.47E-3	-1.04E+1	1.01E+1
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	5.11E-3	1.10E-5	2.47E-3	7.59E-3	9.79E-6	3.53E-4	6.14E-6	-2.91E-3	5.05E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.78E-6	2.48E-7	2.86E-7	3.31E-6	2.21E-7	9.51E-7	5.97E-9	-2.56E-6	1.93E-6
NHWD	kg	2.33E-2	6.02E-3	2.78E-3	3.21E-2	5.36E-3	2.79E-2	2.19E-2	-9.61E-3	7.77E-2
RWD	kg	1.10E-5	6.60E-7	3.05E-7	1.20E-5	5.88E-7	2.20E-6	3.25E-8	-5.05E-6	9.73E-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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