

# Environmental Profile

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

Ecochain v3.5.64



Product: 3067756 - SiTech+ Branch STEA 45° 90X90  
 Unit: 1 piece  
 Manufacturer: Wavin - IT - SM Maddalena

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



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.

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	9.82E-1	1.96E-2	6.98E-2	1.07E+0	1.27E-2	5.69E-1	6.12E-3	-5.90E-1	1.07E+0
GWP-f	kg CO2 eq	1.08E+0	1.96E-2	5.97E-2	1.16E+0	1.26E-2	4.41E-1	6.12E-3	-6.44E-1	9.77E-1
GWP-b	kg CO2 eq	-9.94E-2	1.19E-5	5.04E-3	-9.44E-2	7.68E-6	1.27E-1	5.38E-6	5.44E-2	8.73E-2
GWP-luluc	kg CO2 eq	6.68E-4	6.92E-6	5.04E-3	5.72E-3	4.48E-6	7.11E-5	1.03E-7	-5.54E-4	5.24E-3
ODP	kg CFC11 eq	4.39E-8	4.51E-9	5.99E-9	5.44E-8	2.91E-9	1.00E-8	1.54E-10	-3.06E-8	3.69E-8
AP	mol H+ eq	4.12E-3	1.11E-4	2.41E-4	4.47E-3	7.20E-5	4.20E-4	3.67E-6	-1.99E-3	2.98E-3
EP-fw	kg P eq	2.04E-5	1.61E-7	9.28E-7	2.15E-5	1.04E-7	2.08E-6	4.76E-9	-1.19E-5	1.17E-5
EP-m	kg N eq	7.41E-4	3.99E-5	4.07E-5	8.21E-4	2.58E-5	1.26E-4	2.70E-6	-3.77E-4	5.99E-4
EP-T	mol N eq	8.19E-3	4.39E-4	4.57E-4	9.09E-3	2.84E-4	1.38E-3	1.49E-5	-4.22E-3	6.55E-3
POCP	kg NMVOC eq	3.56E-3	1.26E-4	1.42E-4	3.83E-3	8.12E-5	4.32E-4	5.59E-6	-1.76E-3	2.59E-3
ADP-mm	kg Sb eq	4.51E-5	5.06E-7	1.45E-6	4.71E-5	3.27E-7	1.63E-6	3.69E-9	-5.43E-6	4.36E-5
ADP-f	MJ	3.69E+1	3.00E-1	7.86E-1	3.80E+1	1.94E-1	1.27E+0	1.12E-2	-1.92E+1	2.02E+1
WDP	m3 depriv.	7.29E-1	9.22E-4	2.78E-1	1.01E+0	5.96E-4	2.49E-2	5.15E-5	-3.97E-1	6.36E-1
PM	disease inc.	4.08E-8	1.77E-9	2.41E-9	4.50E-8	1.14E-9	6.73E-9	7.72E-11	-2.07E-8	3.22E-8
IR	kBq U-235 eq	2.71E-2	1.31E-3	7.33E-4	2.92E-2	8.48E-4	3.90E-3	5.24E-5	-1.29E-2	2.11E-2
ETP-fw	CTUe	1.38E+1	2.44E-1	1.24E+0	1.53E+1	1.58E-1	1.59E+0	1.03E-2	-6.96E+0	1.01E+1
HTP-c	CTUh	3.23E-10	8.68E-12	6.61E-11	3.98E-10	5.61E-12	1.70E-10	2.72E-13	-1.68E-10	4.06E-10
HTP-nc	CTUh	7.96E-9	2.91E-10	1.37E-9	9.62E-9	1.88E-10	2.16E-9	6.25E-12	-4.16E-9	7.81E-9
SQP	Pt	1.25E+1	2.57E-1	1.43E-1	1.29E+1	1.66E-1	9.96E-1	2.89E-2	-1.78E+1	-3.77E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.28E+0	4.31E-3	2.72E+0	5.00E+0	2.78E-3	6.14E-2	4.43E-4	-3.14E+0	1.92E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.28E+0	4.31E-3	2.72E+0	5.00E+0	2.78E-3	6.14E-2	4.43E-4	-3.14E+0	1.92E+0
PENRE	MJ	3.96E+1	3.19E-1	8.57E-1	4.07E+1	2.06E-1	1.35E+0	1.19E-2	-2.07E+1	2.16E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.96E+1	3.19E-1	8.57E-1	4.07E+1	2.06E-1	1.35E+0	1.19E-2	-2.07E+1	2.16E+1
PET	MJ	4.18E+1	3.23E-1	3.58E+0	4.57E+1	2.09E-1	1.41E+0	1.24E-2	-2.39E+1	2.35E+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	1.19E-2	3.40E-5	6.60E-3	1.85E-2	2.20E-5	8.18E-4	1.39E-5	-6.94E-3	1.24E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.93E-6	7.68E-7	7.64E-7	8.47E-6	4.96E-7	2.17E-6	1.35E-8	-6.05E-6	5.09E-6
NHWD	kg	5.73E-2	1.86E-2	7.44E-3	8.34E-2	1.20E-2	6.32E-2	4.96E-2	-2.26E-2	1.86E-1
RWD	kg	2.76E-5	2.04E-6	8.15E-7	3.05E-5	1.32E-6	4.99E-6	7.35E-8	-1.21E-5	2.47E-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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