

# Environmental Profile

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

Ecochain v3.5.64



Product: 3067758 - SiTech+ Branch Reduced STEA 45° 110X75  
 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	1.22E+0	2.17E-2	8.80E-2	1.33E+0	1.59E-2	6.98E-1	7.63E-3	-7.36E-1	1.31E+0
GWP-f	kg CO2 eq	1.34E+0	2.17E-2	7.53E-2	1.44E+0	1.59E-2	5.34E-1	7.63E-3	-8.06E-1	1.19E+0
GWP-b	kg CO2 eq	-1.27E-1	1.32E-5	6.36E-3	-1.21E-1	9.64E-6	1.64E-1	6.70E-6	7.11E-2	1.14E-1
GWP-luluc	kg CO2 eq	8.39E-4	7.67E-6	6.35E-3	7.20E-3	5.62E-6	8.98E-5	1.29E-7	-7.17E-4	6.58E-3
ODP	kg CFC11 eq	4.99E-8	5.00E-9	7.55E-9	6.24E-8	3.66E-9	1.27E-8	1.92E-10	-3.77E-8	4.12E-8
AP	mol H+ eq	5.08E-3	1.24E-4	3.04E-4	5.51E-3	9.04E-5	5.28E-4	4.58E-6	-2.51E-3	3.62E-3
EP-fw	kg P eq	2.51E-5	1.78E-7	1.17E-6	2.64E-5	1.31E-7	2.62E-6	5.93E-9	-1.52E-5	1.39E-5
EP-m	kg N eq	9.19E-4	4.42E-5	5.13E-5	1.01E-3	3.23E-5	1.58E-4	3.28E-6	-4.76E-4	7.31E-4
EP-T	mol N eq	1.01E-2	4.87E-4	5.76E-4	1.12E-2	3.56E-4	1.74E-3	1.86E-5	-5.34E-3	7.98E-3
POCP	kg NMVOC eq	4.40E-3	1.39E-4	1.79E-4	4.72E-3	1.02E-4	5.43E-4	6.97E-6	-2.22E-3	3.15E-3
ADP-mm	kg Sb eq	4.76E-5	5.61E-7	1.83E-6	4.99E-5	4.11E-7	2.07E-6	4.59E-9	-6.57E-6	4.59E-5
ADP-f	MJ	4.60E+1	3.33E-1	9.90E-1	4.73E+1	2.44E-1	1.60E+0	1.40E-2	-2.42E+1	2.49E+1
WDP	m3 depriv.	9.07E-1	1.02E-3	3.50E-1	1.26E+0	7.48E-4	3.12E-2	6.41E-5	-5.05E-1	7.86E-1
PM	disease inc.	5.01E-8	1.96E-9	3.04E-9	5.51E-8	1.43E-9	8.50E-9	9.63E-11	-2.64E-8	3.87E-8
IR	kBq U-235 eq	3.23E-2	1.45E-3	9.24E-4	3.46E-2	1.06E-3	4.93E-3	6.52E-5	-1.63E-2	2.44E-2
ETP-fw	CTUe	1.72E+1	2.70E-1	1.56E+0	1.90E+1	1.98E-1	1.97E+0	1.26E-2	-8.96E+0	1.22E+1
HTP-c	CTUh	3.97E-10	9.62E-12	8.33E-11	4.90E-10	7.04E-12	2.15E-10	3.39E-13	-2.13E-10	5.00E-10
HTP-nc	CTUh	9.78E-9	3.22E-10	1.73E-9	1.18E-8	2.36E-10	2.71E-9	7.73E-12	-5.30E-9	9.50E-9
SQP	Pt	1.59E+1	2.85E-1	1.80E-1	1.64E+1	2.08E-1	1.26E+0	3.60E-2	-2.31E+1	-5.24E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.90E+0	4.78E-3	3.43E+0	6.33E+0	3.49E-3	7.75E-2	5.51E-4	-4.07E+0	2.34E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.90E+0	4.78E-3	3.43E+0	6.33E+0	3.49E-3	7.75E-2	5.51E-4	-4.07E+0	2.34E+0
PENRE	MJ	4.93E+1	3.53E-1	1.08E+0	5.07E+1	2.59E-1	1.71E+0	1.49E-2	-2.61E+1	2.67E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.93E+1	3.53E-1	1.08E+0	5.07E+1	2.59E-1	1.71E+0	1.49E-2	-2.61E+1	2.67E+1
PET	MJ	5.22E+1	3.58E-1	4.51E+0	5.71E+1	2.62E-1	1.78E+0	1.54E-2	-3.01E+1	2.90E+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	1.47E-2	3.77E-5	8.32E-3	2.30E-2	2.76E-5	1.00E-3	1.73E-5	-8.84E-3	1.52E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.41E-6	8.51E-7	9.62E-7	1.02E-5	6.23E-7	2.72E-6	1.68E-8	-7.49E-6	6.09E-6
NHWD	kg	7.05E-2	2.06E-2	9.38E-3	1.01E-1	1.51E-2	7.94E-2	6.18E-2	-2.87E-2	2.28E-1
RWD	kg	3.21E-5	2.26E-6	1.03E-6	3.54E-5	1.66E-6	6.30E-6	9.16E-8	-1.53E-5	2.82E-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



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