

# Environmental Profile

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

Ecochain v3.5.64



Product: 3067728 - SiTech+ Bend STB 45° 90  
 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	4.68E-1	9.68E-3	3.36E-2	5.11E-1	6.10E-3	2.85E-1	2.95E-3	-2.86E-1	5.20E-1
GWP-f	kg CO2 eq	5.25E-1	9.67E-3	2.88E-2	5.63E-1	6.10E-3	2.14E-1	2.95E-3	-3.13E-1	4.74E-1
GWP-b	kg CO2 eq	-5.72E-2	5.87E-6	2.43E-3	-5.47E-2	3.70E-6	7.10E-2	2.60E-6	2.73E-2	4.35E-2
GWP-luluc	kg CO2 eq	3.34E-4	3.42E-6	2.43E-3	2.77E-3	2.16E-6	3.43E-5	4.99E-8	-2.79E-4	2.52E-3
ODP	kg CFC11 eq	2.18E-8	2.23E-9	2.89E-9	2.69E-8	1.41E-9	4.86E-9	7.44E-11	-1.50E-8	1.83E-8
AP	mol H+ eq	2.01E-3	5.51E-5	1.16E-4	2.18E-3	3.47E-5	2.03E-4	1.77E-6	-9.70E-4	1.45E-3
EP-fw	kg P eq	9.99E-6	7.96E-8	4.47E-7	1.05E-5	5.02E-8	1.00E-6	2.30E-9	-5.88E-6	5.69E-6
EP-m	kg N eq	3.63E-4	1.97E-5	1.96E-5	4.02E-4	1.24E-5	6.10E-5	1.31E-6	-1.85E-4	2.92E-4
EP-T	mol N eq	4.01E-3	2.17E-4	2.20E-4	4.44E-3	1.37E-4	6.71E-4	7.21E-6	-2.07E-3	3.19E-3
POCP	kg NMVOC eq	1.74E-3	6.21E-5	6.84E-5	1.87E-3	3.92E-5	2.09E-4	2.70E-6	-8.59E-4	1.26E-3
ADP-mm	kg Sb eq	2.23E-5	2.50E-7	7.00E-7	2.33E-5	1.58E-7	7.91E-7	1.78E-9	-2.66E-6	2.16E-5
ADP-f	MJ	1.78E+1	1.48E-1	3.79E-1	1.84E+1	9.36E-2	6.13E-1	5.43E-3	-9.31E+0	9.77E+0
WDP	m3 depriv.	3.53E-1	4.55E-4	1.34E-1	4.87E-1	2.87E-4	1.20E-2	2.49E-5	-1.93E-1	3.06E-1
PM	disease inc.	2.00E-8	8.73E-10	1.16E-9	2.21E-8	5.51E-10	3.26E-9	3.73E-11	-1.02E-8	1.57E-8
IR	kBq U-235 eq	1.33E-2	6.49E-4	3.53E-4	1.43E-2	4.09E-4	1.89E-3	2.53E-5	-6.32E-3	1.03E-2
ETP-fw	CTUe	6.84E+0	1.21E-1	5.97E-1	7.56E+0	7.60E-2	7.71E-1	4.98E-3	-3.47E+0	4.94E+0
HTP-c	CTUh	1.61E-10	4.29E-12	3.18E-11	1.97E-10	2.71E-12	8.23E-11	1.32E-13	-8.47E-11	1.97E-10
HTP-nc	CTUh	3.90E-9	1.44E-10	6.61E-10	4.70E-9	9.06E-11	1.04E-9	3.02E-12	-2.05E-9	3.79E-9
SQP	Pt	6.84E+0	1.27E-1	6.90E-2	7.03E+0	8.01E-2	4.81E-1	1.39E-2	-9.43E+0	-1.82E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.22E+0	2.13E-3	1.31E+0	2.53E+0	1.34E-3	2.96E-2	2.14E-4	-1.64E+0	9.19E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.22E+0	2.13E-3	1.31E+0	2.53E+0	1.34E-3	2.96E-2	2.14E-4	-1.64E+0	9.19E-1
PENRE	MJ	1.91E+1	1.58E-1	4.13E-1	1.97E+1	9.94E-2	6.53E-1	5.76E-3	-1.00E+1	1.04E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.91E+1	1.58E-1	4.13E-1	1.97E+1	9.94E-2	6.53E-1	5.76E-3	-1.00E+1	1.04E+1
PET	MJ	2.04E+1	1.60E-1	1.72E+0	2.22E+1	1.01E-1	6.82E-1	5.97E-3	-1.17E+1	1.14E+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	5.78E-3	1.68E-5	3.18E-3	8.98E-3	1.06E-5	3.97E-4	6.71E-6	-3.39E-3	6.00E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.45E-6	3.80E-7	3.68E-7	4.19E-6	2.39E-7	1.05E-6	6.52E-9	-2.99E-6	2.50E-6
NHWD	kg	2.84E-2	9.20E-3	3.59E-3	4.11E-2	5.80E-3	3.06E-2	2.39E-2	-1.13E-2	9.01E-2
RWD	kg	1.36E-5	1.01E-6	3.93E-7	1.50E-5	6.37E-7	2.41E-6	3.55E-8	-5.97E-6	1.21E-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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