

# Environmental Profile

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

Ecochain v3.5.64



Product: 3067713 - SiTech+ Bend STB 15° 110  
 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	6.77E-1	1.33E-2	4.88E-2	7.40E-1	8.82E-3	3.92E-1	4.25E-3	-4.12E-1	7.33E-1
GWP-f	kg CO2 eq	7.48E-1	1.33E-2	4.17E-2	8.03E-1	8.81E-3	3.03E-1	4.25E-3	-4.47E-1	6.72E-1
GWP-b	kg CO2 eq	-7.10E-2	8.06E-6	3.52E-3	-6.75E-2	5.35E-6	8.94E-2	3.74E-6	3.54E-2	5.73E-2
GWP-luluc	kg CO2 eq	4.49E-4	4.70E-6	3.52E-3	3.98E-3	3.12E-6	4.96E-5	7.18E-8	-3.70E-4	3.66E-3
ODP	kg CFC11 eq	2.91E-8	3.06E-9	4.19E-9	3.63E-8	2.03E-9	6.96E-9	1.07E-10	-2.09E-8	2.45E-8
AP	mol H+ eq	2.84E-3	7.57E-5	1.68E-4	3.08E-3	5.02E-5	2.91E-4	2.55E-6	-1.37E-3	2.05E-3
EP-fw	kg P eq	1.39E-5	1.09E-7	6.48E-7	1.47E-5	7.25E-8	1.45E-6	3.31E-9	-8.09E-6	8.08E-6
EP-m	kg N eq	5.09E-4	2.71E-5	2.84E-5	5.64E-4	1.80E-5	8.71E-5	1.86E-6	-2.60E-4	4.11E-4
EP-T	mol N eq	5.63E-3	2.98E-4	3.20E-4	6.25E-3	1.98E-4	9.58E-4	1.04E-5	-2.91E-3	4.50E-3
POCP	kg NMVOC eq	2.46E-3	8.53E-5	9.93E-5	2.64E-3	5.66E-5	2.99E-4	3.89E-6	-1.22E-3	1.78E-3
ADP-mm	kg Sb eq	2.94E-5	3.44E-7	1.02E-6	3.08E-5	2.28E-7	1.14E-6	2.56E-9	-3.71E-6	2.84E-5
ADP-f	MJ	2.56E+1	2.04E-1	5.49E-1	2.63E+1	1.35E-1	8.83E-1	7.81E-3	-1.34E+1	1.40E+1
WDP	m3 depriv.	5.06E-1	6.26E-4	1.94E-1	7.00E-1	4.15E-4	1.73E-2	3.58E-5	-2.74E-1	4.44E-1
PM	disease inc.	2.80E-8	1.20E-9	1.69E-9	3.09E-8	7.95E-10	4.68E-9	5.37E-11	-1.43E-8	2.21E-8
IR	kBq U-235 eq	1.84E-2	8.91E-4	5.12E-4	1.98E-2	5.91E-4	2.71E-3	3.64E-5	-8.81E-3	1.43E-2
ETP-fw	CTUe	9.20E+0	1.66E-1	8.67E-1	1.02E+1	1.10E-1	1.10E+0	7.10E-3	-4.67E+0	6.78E+0
HTP-c	CTUh	2.22E-10	5.89E-12	4.62E-11	2.74E-10	3.91E-12	1.19E-10	1.89E-13	-1.16E-10	2.81E-10
HTP-nc	CTUh	5.46E-9	1.97E-10	9.58E-10	6.62E-9	1.31E-10	1.50E-9	4.33E-12	-2.86E-9	5.40E-9
SQP	Pt	8.72E+0	1.74E-1	1.00E-1	9.00E+0	1.16E-1	6.94E-1	2.01E-2	-1.21E+1	-2.29E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.58E+0	2.92E-3	1.90E+0	3.49E+0	1.94E-3	4.28E-2	3.08E-4	-2.13E+0	1.40E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.58E+0	2.92E-3	1.90E+0	3.49E+0	1.94E-3	4.28E-2	3.08E-4	-2.13E+0	1.40E+0
PENRE	MJ	2.74E+1	2.16E-1	5.99E-1	2.83E+1	1.44E-1	9.41E-1	8.29E-3	-1.44E+1	1.49E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.74E+1	2.16E-1	5.99E-1	2.83E+1	1.44E-1	9.41E-1	8.29E-3	-1.44E+1	1.49E+1
PET	MJ	2.90E+1	2.19E-1	2.50E+0	3.18E+1	1.46E-1	9.83E-1	8.60E-3	-1.66E+1	1.63E+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	8.19E-3	2.31E-5	4.62E-3	1.28E-2	1.53E-5	5.64E-4	9.65E-6	-4.75E-3	8.67E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.72E-6	5.21E-7	5.34E-7	5.77E-6	3.46E-7	1.50E-6	9.38E-9	-4.16E-6	3.47E-6
NHWD	kg	3.92E-2	1.26E-2	5.20E-3	5.70E-2	8.38E-3	4.39E-2	3.44E-2	-1.56E-2	1.28E-1
RWD	kg	1.85E-5	1.39E-6	5.70E-7	2.05E-5	9.20E-7	3.47E-6	5.11E-8	-8.29E-6	1.67E-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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