

# Environmental Profile

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

Ecochain v3.5.64



Product: 3067712 - SiTech+ Bend STB 15° 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	4.08E-1	8.93E-3	2.90E-2	4.45E-1	5.31E-3	2.62E-1	2.58E-3	-2.49E-1	4.67E-1
GWP-f	kg CO2 eq	4.65E-1	8.92E-3	2.48E-2	4.98E-1	5.31E-3	1.91E-1	2.58E-3	-2.76E-1	4.22E-1
GWP-b	kg CO2 eq	-5.74E-2	5.42E-6	2.09E-3	-5.53E-2	3.22E-6	7.10E-2	2.27E-6	2.74E-2	4.31E-2
GWP-luluc	kg CO2 eq	3.19E-4	3.16E-6	2.09E-3	2.41E-3	1.88E-6	2.99E-5	4.37E-8	-2.71E-4	2.17E-3
ODP	kg CFC11 eq	2.08E-8	2.06E-9	2.49E-9	2.54E-8	1.22E-9	4.28E-9	6.50E-11	-1.37E-8	1.73E-8
AP	mol H+ eq	1.80E-3	5.08E-5	1.00E-4	1.95E-3	3.02E-5	1.79E-4	1.55E-6	-8.67E-4	1.29E-3
EP-fw	kg P eq	9.13E-6	7.34E-8	3.85E-7	9.59E-6	4.37E-8	8.74E-7	2.01E-9	-5.48E-6	5.03E-6
EP-m	kg N eq	3.27E-4	1.82E-5	1.69E-5	3.63E-4	1.08E-5	5.39E-5	1.16E-6	-1.67E-4	2.62E-4
EP-T	mol N eq	3.61E-3	2.00E-4	1.90E-4	4.00E-3	1.19E-4	5.93E-4	6.30E-6	-1.87E-3	2.85E-3
POCP	kg NMVOC eq	1.55E-3	5.73E-5	5.89E-5	1.67E-3	3.41E-5	1.85E-4	2.36E-6	-7.66E-4	1.12E-3
ADP-mm	kg Sb eq	2.15E-5	2.31E-7	6.03E-7	2.24E-5	1.37E-7	6.95E-7	1.56E-9	-2.42E-6	2.08E-5
ADP-f	MJ	1.57E+1	1.37E-1	3.26E-1	1.61E+1	8.15E-2	5.36E-1	4.75E-3	-8.16E+0	8.61E+0
WDP	m3 depriv.	3.11E-1	4.20E-4	1.15E-1	4.27E-1	2.50E-4	1.05E-2	2.17E-5	-1.73E-1	2.64E-1
PM	disease inc.	1.82E-8	8.06E-10	1.00E-9	2.00E-8	4.79E-10	2.86E-9	3.26E-11	-9.39E-9	1.40E-8
IR	kBq U-235 eq	1.22E-2	5.99E-4	3.04E-4	1.32E-2	3.56E-4	1.66E-3	2.21E-5	-5.79E-3	9.40E-3
ETP-fw	CTUe	6.54E+0	1.11E-1	5.15E-1	7.17E+0	6.62E-2	6.84E-1	4.41E-3	-3.33E+0	4.60E+0
HTP-c	CTUh	1.47E-10	3.96E-12	2.74E-11	1.79E-10	2.35E-12	7.20E-11	1.15E-13	-7.86E-11	1.75E-10
HTP-nc	CTUh	3.53E-9	1.33E-10	5.69E-10	4.23E-9	7.89E-11	9.15E-10	2.66E-12	-1.88E-9	3.34E-9
SQP	Pt	6.76E+0	1.17E-1	5.94E-2	6.94E+0	6.97E-2	4.20E-1	1.22E-2	-9.40E+0	-1.96E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.19E+0	1.97E-3	1.13E+0	2.32E+0	1.17E-3	2.59E-2	1.88E-4	-1.63E+0	7.17E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.19E+0	1.97E-3	1.13E+0	2.32E+0	1.17E-3	2.59E-2	1.88E-4	-1.63E+0	7.17E-1
PENRE	MJ	1.68E+1	1.45E-1	3.56E-1	1.73E+1	8.65E-2	5.71E-1	5.04E-3	-8.79E+0	9.19E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.68E+1	1.45E-1	3.56E-1	1.73E+1	8.65E-2	5.71E-1	5.04E-3	-8.79E+0	9.19E+0
PET	MJ	1.80E+1	1.47E-1	1.48E+0	1.96E+1	8.77E-2	5.97E-1	5.22E-3	-1.04E+1	9.91E+0
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	5.15E-3	1.55E-5	2.74E-3	7.91E-3	9.22E-6	3.52E-4	5.87E-6	-3.09E-3	5.18E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.20E-6	3.50E-7	3.17E-7	3.87E-6	2.08E-7	9.24E-7	5.70E-9	-2.72E-6	2.28E-6
NHWD	kg	2.61E-2	8.49E-3	3.09E-3	3.77E-2	5.05E-3	2.68E-2	2.09E-2	-1.04E-2	8.00E-2
RWD	kg	1.27E-5	9.32E-7	3.38E-7	1.39E-5	5.54E-7	2.12E-6	3.10E-8	-5.49E-6	1.12E-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