Environmental Profile

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

Ecochain v3.5.71

Product:	3067154 - PVC-U Soil Bend 45° WT 110 D/S
Unit:	1 piece
Manufacturer:	Wavin - UK - Chippenham - Verified

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	09-02-2023
End of validity:	09-02-2028
Verifier:	Martijn van Hövell - SGS Search

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 - UK - Chippenham - Verified (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 EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.49E-1	8.34E-3	5.69E-2	8.15E-1	8.57E-3	3.05E-1	4.04E-3	-3.50E-1	7.82E-1
GWP-f	kg CO2 eq	7.24E-1	8.33E-3	5.53E-2	7.88E-1	8.56E-3	3.05E-1	4.04E-3	-3.47E-1	7.59E-1
GWP-b	kg CO2 eq	2.28E-2	5.06E-6	1.54E-3	2.43E-2	5.20E-6	-2.99E-4	3.02E-6	-2.40E-3	2.16E-2
GWP-luluc	kg CO2 eq	2.23E-3	2.95E-6	4.49E-5	2.27E-3	3.03E-6	4.66E-5	1.57E-7	-2.28E-4	2.09E-3
ODP	kg CFC11 eq	7.02E-8	1.92E-9	5.19E-9	7.73E-8	1.97E-9	6.18E-9	1.11E-10	-1.76E-7	-9.08E-8
AP	mol H+ eq	7.22E-3	4.75E-5	2.94E-4	7.57E-3	4.88E-5	2.56E-4	3.03E-6	-1.33E-3	6.54E-3
EP-fw	kg P eq	7.56E-5	6.86E-8	7.62E-7	7.65E-5	7.05E-8	1.35E-6	5.97E-9	-1.30E-5	6.49E-5
EP-m	kg N eq	1.43E-3	1.70E-5	5.97E-5	1.51E-3	1.75E-5	7.41E-5	1.36E-6	-2.30E-4	1.37E-3
EP-T	mol N eq	1.78E-2	1.87E-4	6.46E-4	1.87E-2	1.92E-4	8.12E-4	1.13E-5	-2.44E-3	1.72E-2
POCP	kg NMVOC eq	4.22E-3	5.35E-5	2.91E-4	4.57E-3	5.50E-5	2.54E-4	4.12E-6	-8.52E-4	4.03E-3
ADP-mm	kg Sb eq	1.50E-2	2.16E-7	1.29E-6	1.50E-2	2.22E-7	1.02E-6	3.73E-9	-8.14E-6	1.50E-2
ADP-f	MJ	1.16E+1	1.28E-1	6.11E-1	1.23E+1	1.31E-1	8.18E-1	8.39E-3	-8.49E+0	4.78E+0
WDP	m3 depriv.	7.72E-1	3.92E-4	1.90E-2	7.92E-1	4.03E-4	1.57E-2	3.36E-4	-5.06E-1	3.02E-1
PM	disease inc.	3.54E-8	7.52E-10	1.99E-9	3.81E-8	7.73E-10	4.16E-9	5.80E-11	-8.52E-9	3.46E-8
IR	kBq U-235 eq	7.26E-2	5.59E-4	1.56E-3	7.47E-2	5.75E-4	2.45E-3	3.36E-5	-1.65E-2	6.12E-2
ETP-fw	CTUe	1.44E+2	1.04E-1	1.55E+0	1.46E+2	1.07E-1	1.03E+0	7.77E-3	-4.89E+0	1.42E+2
HTP-c	CTUh	3.43E-9	3.70E-12	6.08E-11	3.49E-9	3.80E-12	2.77E-10	4.25E-13	-1.86E-10	3.59E-9
HTP-nc	CTUh	1.01E-7	1.24E-10	3.55E-9	1.05E-7	1.27E-10	1.83E-9	6.03E-12	-6.43E-9	1.00E-7
SQP	Pt	5.92E+0	1.09E-1	2.04E-1	6.23E+0	1.12E-1	6.47E-1	2.01E-2	-9.14E-1	6.10E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.46E+0	1.83E-3	3.16E+0	4.62E+0	1.89E-3	4.00E-2	1.64E-4	-3.70E-1	4.29E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.46E+0	1.83E-3	3.16E+0	4.62E+0	1.89E-3	4.00E-2	1.64E-4	-3.70E-1	4.29E+0
PENRE	MJ	1.23E+1	1.36E-1	6.49E-1	1.31E+1	1.40E-1	8.72E-1	8.91E-3	-9.14E+0	4.97E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.23E+1	1.36E-1	6.49E-1	1.31E+1	1.40E-1	8.72E-1	8.91E-3	-9.14E+0	4.97E+0
PET	MJ	1.38E+1	1.38E-1	3.81E+0	1.77E+1	1.41E-1	9.12E-1	9.07E-3	-9.51E+0	9.27E+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	2.26E-2	1.45E-5	5.45E-4	2.32E-2	1.49E-5	5.38E-4	8.93E-6	-5.30E-3	1.84E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.90E-3	3.27E-7	6.03E-6	1.91E-3	3.36E-7	1.53E-6	1.26E-8	-7.01E-6	1.90E-3
NHWD	kg	1.30E-1	7.93E-3	1.23E-3	1.39E-1	8.15E-3	4.28E-2	3.40E-2	-2.70E-2	1.97E-1
RWD	kg	5.70E-5	8.70E-7	1.60E-6	5.95E-5	8.94E-7	3.11E-6	5.07E-8	-1.46E-5	4.89E-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

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