Environmental Profile

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

Ecochain v3.5.71

Product:	3066559 - PVC-U Soil Bend 45° BK 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	6.92E-1	2.71E-2	5.69E-2	7.76E-1	8.60E-3	2.99E-1	2.89E-3	-3.74E-1	7.12E-1
GWP-f	kg CO2 eq	6.87E-1	2.71E-2	5.53E-2	7.70E-1	8.59E-3	2.99E-1	2.89E-3	-3.71E-1	7.09E-1
GWP-b	kg CO2 eq	3.97E-3	-5.35E-6	1.54E-3	5.51E-3	5.22E-6	-1.94E-4	3.56E-6	-2.37E-3	2.95E-3
GWP-luluc	kg CO2 eq	5.65E-4	1.77E-5	4.49E-5	6.28E-4	3.04E-6	1.02E-4	7.47E-8	-2.26E-4	5.07E-4
ODP	kg CFC11 eq	3.62E-7	5.53E-9	5.19E-9	3.72E-7	1.98E-9	2.79E-8	1.05E-10	-1.77E-7	2.26E-7
AP	mol H+ eq	3.27E-3	7.97E-4	2.94E-4	4.36E-3	4.89E-5	4.78E-4	2.57E-6	-1.33E-3	3.55E-3
EP-fw	kg P eq	3.03E-5	1.24E-7	7.62E-7	3.12E-5	7.07E-8	3.41E-6	3.37E-9	-1.28E-5	2.18E-5
EP-m	kg N eq	5.45E-4	1.98E-4	5.97E-5	8.02E-4	1.75E-5	1.17E-4	1.85E-6	-2.33E-4	7.05E-4
EP-T	mol N eq	5.96E-3	2.20E-3	6.46E-4	8.80E-3	1.93E-4	1.29E-3	1.02E-5	-2.48E-3	7.81E-3
POCP	kg NMVOC eq	2.12E-3	5.71E-4	2.91E-4	2.98E-3	5.52E-5	3.83E-4	3.53E-6	-8.64E-4	2.56E-3
ADP-mm	kg Sb eq	3.82E-4	2.59E-7	1.29E-6	3.84E-4	2.22E-7	1.86E-6	2.57E-9	-8.04E-6	3.78E-4
ADP-f	MJ	1.79E+1	3.54E-1	6.11E-1	1.89E+1	1.32E-1	1.29E+0	7.70E-3	-8.85E+0	1.14E+1
WDP	m3 depriv.	1.07E+0	5.94E-4	1.90E-2	1.09E+0	4.05E-4	5.19E-2	5.14E-5	-4.99E-1	6.45E-1
PM	disease inc.	2.42E-8	1.02E-9	1.99E-9	2.72E-8	7.75E-10	5.83E-9	5.29E-11	-8.46E-9	2.54E-8
IR	kBq U-235 eq	4.14E-2	1.52E-3	1.56E-3	4.44E-2	5.76E-4	4.52E-3	3.55E-5	-1.64E-2	3.32E-2
ETP-fw	CTUe	1.48E+1	2.36E-1	1.55E+0	1.66E+1	1.07E-1	1.01E+1	1.12E-1	-4.86E+0	2.20E+1
HTP-c	CTUh	5.10E-10	1.50E-11	6.08E-11	5.86E-10	3.81E-12	1.44E-10	2.13E-13	-1.85E-10	5.49E-10
HTP-nc	CTUh	1.61E-8	2.04E-10	3.55E-9	1.99E-8	1.28E-10	3.50E-9	2.17E-11	-6.36E-9	1.72E-8
SQP	Pt	2.46E+0	8.24E-2	2.04E-1	2.74E+0	1.13E-1	7.91E-1	1.97E-2	-9.13E-1	2.75E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.50E-1	2.75E-3	3.16E+0	4.01E+0	1.89E-3	9.36E-2	2.90E-4	-3.65E-1	3.74E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.50E-1	2.75E-3	3.16E+0	4.01E+0	1.89E-3	9.36E-2	2.90E-4	-3.65E-1	3.74E+0
PENRE	MJ	1.92E+1	3.76E-1	6.49E-1	2.02E+1	1.40E-1	1.37E+0	8.17E-3	-9.54E+0	1.22E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.92E+1	3.76E-1	6.49E-1	2.02E+1	1.40E-1	1.37E+0	8.17E-3	-9.54E+0	1.22E+1
PET	MJ	2.00E+1	3.79E-1	3.81E+0	2.42E+1	1.42E-1	1.47E+0	8.46E-3	-9.91E+0	1.59E+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	1.23E-2	2.14E-5	5.45E-4	1.29E-2	1.49E-5	1.49E-3	9.43E-6	-5.25E-3	9.18E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.62E-5	4.02E-7	6.03E-6	6.26E-5	3.37E-7	2.12E-6	9.38E-9	-7.49E-6	5.76E-5
NHWD	kg	6.66E-2	3.68E-3	1.23E-3	7.15E-2	8.17E-3	4.80E-2	3.40E-2	-2.68E-2	1.35E-1
RWD	kg	3.99E-5	2.45E-6	1.60E-6	4.39E-5	8.97E-7	4.81E-6	5.01E-8	-1.46E-5	3.51E-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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