Environmental Profile

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

Ecochain v3.5.71

Product:	3035671 - OsmaS PVCU Pipe Bracket BK 110
Unit:	1 piece
Manufacturer:	Wavin - UK - Chippenham - Verified

The Wavin Osma soil range offers an exceptional choice of pipe & fittings including brackets, bends, junctions, access fittings, and terminations. To connect to your soil system, we offer push-fit & solvent weld waste ranges, together with trap, overflow & condensate ranges to cover all installation needs.

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

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.68E-1	7.12E-3	1.27E-2	1.88E-1	2.21E-3	6.27E-2	6.91E-4	-9.36E-2	1.60E-1
GWP-f	kg CO2 eq	1.66E-1	7.12E-3	1.23E-2	1.86E-1	2.21E-3	6.28E-2	6.91E-4	-9.29E-2	1.59E-1
GWP-b	kg CO2 eq	1.36E-3	-1.48E-6	4.02E-4	1.76E-3	1.34E-6	-6.05E-5	8.66E-7	-6.45E-4	1.06E-3
GWP-luluc	kg CO2 eq	1.38E-4	4.67E-6	9.03E-6	1.51E-4	7.83E-7	2.71E-5	1.85E-8	-5.98E-5	1.20E-4
ODP	kg CFC11 eq	9.18E-8	1.45E-9	1.24E-9	9.45E-8	5.10E-10	7.40E-9	2.60E-11	-4.66E-8	5.59E-8
AP	mol H+ eq	7.72E-4	2.12E-4	6.30E-5	1.05E-3	1.26E-5	1.25E-4	6.32E-7	-3.50E-4	8.35E-4
EP-fw	kg P eq	7.52E-6	3.22E-8	1.66E-7	7.72E-6	1.82E-8	9.05E-7	8.31E-10	-3.41E-6	5.23E-6
EP-m	kg N eq	1.30E-4	5.25E-5	1.35E-5	1.96E-4	4.51E-6	3.02E-5	3.86E-7	-6.06E-5	1.71E-4
EP-T	mol N eq	1.42E-3	5.83E-4	1.45E-4	2.15E-3	4.97E-5	3.33E-4	2.52E-6	-6.44E-4	1.89E-3
POCP	kg NMVOC eq	4.85E-4	1.52E-4	6.83E-5	7.05E-4	1.42E-5	9.98E-5	8.66E-7	-2.24E-4	5.96E-4
ADP-mm	kg Sb eq	1.00E-4	6.66E-8	2.59E-7	1.01E-4	5.72E-8	4.93E-7	6.36E-10	-1.89E-6	9.94E-5
ADP-f	MJ	4.30E+0	9.29E-2	1.35E-1	4.53E+0	3.39E-2	3.42E-1	1.90E-3	-2.25E+0	2.65E+0
WDP	m3 depriv.	2.76E-1	1.54E-4	4.38E-3	2.80E-1	1.04E-4	1.36E-2	1.34E-5	-1.33E-1	1.61E-1
PM	disease inc.	5.21E-9	2.63E-10	4.20E-10	5.89E-9	2.00E-10	1.55E-9	1.31E-11	-2.21E-9	5.44E-9
IR	kBq U-235 eq	9.40E-3	3.99E-4	3.69E-4	1.02E-2	1.48E-4	1.20E-3	8.69E-6	-4.30E-3	7.22E-3
ETP-fw	CTUe	3.61E+0	6.17E-2	3.21E-1	4.00E+0	2.76E-2	2.65E+0	2.94E-2	-1.28E+0	5.42E+0
HTP-c	CTUh	1.28E-10	3.94E-12	1.26E-11	1.45E-10	9.81E-13	3.88E-11	5.28E-14	-4.89E-11	1.36E-10
HTP-nc	CTUh	4.11E-9	5.29E-11	8.45E-10	5.01E-9	3.29E-11	9.23E-10	5.65E-12	-1.69E-9	4.28E-9
SQP	Pt	5.50E-1	2.07E-2	4.29E-2	6.14E-1	2.90E-2	2.11E-1	4.85E-3	-2.38E-1	6.21E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.08E-1	7.12E-4	6.26E-1	8.34E-1	4.87E-4	2.49E-2	6.96E-5	-9.67E-2	7.63E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.08E-1	7.12E-4	6.26E-1	8.34E-1	4.87E-4	2.49E-2	6.96E-5	-9.67E-2	7.63E-1
PENRE	MJ	4.61E+0	9.86E-2	1.44E-1	4.85E+0	3.60E-2	3.64E-1	2.01E-3	-2.43E+0	2.83E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.61E+0	9.86E-2	1.44E-1	4.85E+0	3.60E-2	3.64E-1	2.01E-3	-2.43E+0	2.83E+0
PET	MJ	4.82E+0	9.93E-2	7.69E-1	5.69E+0	3.65E-2	3.89E-1	2.08E-3	-2.53E+0	3.59E+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	3.02E-3	5.53E-6	1.23E-4	3.15E-3	3.84E-6	3.72E-4	2.32E-6	-1.39E-3	2.14E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.55E-5	1.03E-7	1.55E-6	1.71E-5	8.68E-8	5.52E-7	2.32E-9	-1.88E-6	1.59E-5
NHWD	kg	1.61E-2	8.92E-4	3.12E-4	1.73E-2	2.10E-3	1.25E-2	8.41E-3	-7.10E-3	3.32E-2
RWD	kg	8.40E-6	6.44E-7	4.11E-7	9.46E-6	2.31E-7	1.28E-6	1.23E-8	-3.79E-6	7.19E-6
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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