Environmental Profile

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

Ecochain v3.5.71

Product:	3036205 - OsmaS PVCU Bossed Pipe WT 110x40 D/SW
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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	6.96E-1	8.28E-3	7.30E-2	7.77E-1	8.23E-3	2.50E-1	3.76E-3	-3.30E-1	7.10E-1
GWP-f	kg CO2 eq	6.70E-1	8.27E-3	7.16E-2	7.50E-1	8.23E-3	2.51E-1	3.76E-3	-3.27E-1	6.86E-1
GWP-b	kg CO2 eq	2.32E-2	5.00E-6	1.42E-3	2.46E-2	5.00E-6	-3.28E-4	2.76E-6	-2.40E-3	2.19E-2
GWP-luluc	kg CO2 eq	2.13E-3	2.93E-6	6.69E-5	2.20E-3	2.91E-6	4.60E-5	1.49E-7	-2.23E-4	2.03E-3
ODP	kg CFC11 eq	5.47E-8	1.91E-9	5.81E-9	6.24E-8	1.90E-9	6.02E-9	1.03E-10	-1.70E-7	-9.99E-8
AP	mol H+ eq	6.88E-3	4.78E-5	4.01E-4	7.33E-3	4.69E-5	2.47E-4	2.83E-6	-1.30E-3	6.32E-3
EP-fw	kg P eq	7.23E-5	6.79E-8	1.01E-6	7.34E-5	6.77E-8	1.33E-6	5.66E-9	-1.27E-5	6.21E-5
EP-m	kg N eq	1.36E-3	1.70E-5	7.41E-5	1.45E-3	1.68E-5	7.07E-5	1.03E-6	-2.23E-4	1.32E-3
EP-T	mol N eq	1.70E-2	1.88E-4	8.18E-4	1.80E-2	1.85E-4	7.75E-4	1.06E-5	-2.37E-3	1.66E-2
POCP	kg NMVOC eq	3.93E-3	5.36E-5	3.39E-4	4.32E-3	5.28E-5	2.45E-4	3.85E-6	-8.29E-4	3.79E-3
ADP-mm	kg Sb eq	1.46E-2	2.13E-7	1.94E-6	1.46E-2	2.13E-7	1.00E-6	3.52E-9	-7.22E-6	1.46E-2
ADP-f	MJ	1.03E+1	1.27E-1	7.92E-1	1.12E+1	1.26E-1	8.04E-1	7.82E-3	-8.18E+0	3.96E+0
WDP	m3 depriv.	7.36E-1	3.89E-4	2.28E-2	7.59E-1	3.88E-4	1.49E-2	3.27E-4	-4.97E-1	2.77E-1
PM	disease inc.	3.13E-8	7.45E-10	2.78E-9	3.48E-8	7.43E-10	4.10E-9	5.41E-11	-8.34E-9	3.14E-8
IR	kBq U-235 eq	6.60E-2	5.55E-4	1.81E-3	6.84E-2	5.52E-4	2.41E-3	3.10E-5	-1.60E-2	5.54E-2
ETP-fw	CTUe	1.40E+2	1.03E-1	2.21E+0	1.42E+2	1.03E-1	9.24E-1	6.63E-3	-4.75E+0	1.38E+2
HTP-c	CTUh	3.33E-9	3.67E-12	8.68E-11	3.42E-9	3.65E-12	2.73E-10	4.05E-13	-1.81E-10	3.52E-9
HTP-nc	CTUh	9.81E-8	1.23E-10	4.04E-9	1.02E-7	1.22E-10	1.77E-9	5.53E-12	-6.29E-9	9.79E-8
SQP	Pt	5.49E+0	1.08E-1	2.85E-1	5.88E+0	1.08E-1	6.40E-1	1.87E-2	-8.78E-1	5.77E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.38E+0	1.82E-3	4.79E+0	6.17E+0	1.81E-3	3.93E-2	1.42E-4	-3.61E-1	5.85E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.38E+0	1.82E-3	4.79E+0	6.17E+0	1.81E-3	3.93E-2	1.42E-4	-3.61E-1	5.85E+0
PENRE	MJ	1.09E+1	1.35E-1	8.41E-1	1.19E+1	1.34E-1	8.57E-1	8.31E-3	-8.80E+0	4.12E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.09E+1	1.35E-1	8.41E-1	1.19E+1	1.34E-1	8.57E-1	8.31E-3	-8.80E+0	4.12E+0
PET	MJ	1.23E+1	1.37E-1	5.63E+0	1.81E+1	1.36E-1	8.96E-1	8.45E-3	-9.16E+0	9.97E+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	2.15E-2	1.43E-5	6.84E-4	2.22E-2	1.43E-5	4.57E-4	8.25E-6	-5.20E-3	1.75E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.85E-3	3.24E-7	5.74E-6	1.86E-3	3.23E-7	1.46E-6	1.19E-8	-6.51E-6	1.85E-3
NHWD	kg	1.26E-1	7.84E-3	1.20E-3	1.35E-1	7.83E-3	4.14E-2	3.16E-2	-2.64E-2	1.89E-1
RWD	kg	4.90E-5	8.63E-7	1.52E-6	5.14E-5	8.59E-7	3.06E-6	4.70E-8	-1.40E-5	4.13E-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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