Environmental Profile

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

Ecochain v3.5.71

Product:	3036727 - OsmaS PVCU Brch 67.5° BK 110x110 S/S
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	1.82E+0	7.90E-2	2.14E-1	2.12E+0	2.42E-2	6.65E-1	7.76E-3	-1.02E+0	1.80E+0
GWP-f	kg CO2 eq	1.81E+0	7.90E-2	2.09E-1	2.10E+0	2.42E-2	6.66E-1	7.76E-3	-1.01E+0	1.79E+0
GWP-b	kg CO2 eq	1.41E-2	-1.27E-5	4.24E-3	1.83E-2	1.47E-5	-6.78E-4	9.56E-6	-6.99E-3	1.06E-2
GWP-luluc	kg CO2 eq	1.46E-3	5.04E-5	1.94E-4	1.71E-3	8.56E-6	2.89E-4	2.01E-7	-6.44E-4	1.36E-3
ODP	kg CFC11 eq	9.71E-7	1.62E-8	1.71E-8	1.00E-6	5.57E-9	7.80E-8	2.85E-10	-4.97E-7	5.91E-7
AP	mol H+ eq	8.38E-3	2.24E-3	1.17E-3	1.18E-2	1.38E-4	1.34E-3	6.93E-6	-3.82E-3	9.46E-3
EP-fw	kg P eq	8.02E-5	3.75E-7	2.96E-6	8.35E-5	1.99E-7	9.62E-6	9.08E-9	-3.67E-5	5.66E-5
EP-m	kg N eq	1.40E-3	5.58E-4	2.17E-4	2.18E-3	4.93E-5	3.24E-4	4.52E-6	-6.59E-4	1.90E-3
EP-T	mol N eq	1.53E-2	6.20E-3	2.39E-3	2.39E-2	5.43E-4	3.57E-3	2.76E-5	-7.01E-3	2.10E-2
POCP	kg NMVOC eq	5.34E-3	1.61E-3	9.97E-4	7.95E-3	1.55E-4	1.07E-3	9.53E-6	-2.46E-3	6.73E-3
ADP-mm	kg Sb eq	1.01E-3	8.15E-7	5.61E-6	1.02E-3	6.26E-7	5.28E-6	6.95E-9	-2.04E-5	1.00E-3
ADP-f	MJ	4.75E+1	1.04E+0	2.32E+0	5.09E+1	3.71E-1	3.67E+0	2.08E-2	-2.48E+1	3.01E+1
WDP	m3 depriv.	2.93E+0	1.82E-3	6.70E-2	3.00E+0	1.14E-3	1.44E-1	1.40E-4	-1.44E+0	1.70E+0
PM	disease inc.	5.81E-8	3.16E-9	8.10E-9	6.94E-8	2.18E-9	1.67E-8	1.43E-10	-2.43E-8	6.40E-8
IR	kBq U-235 eq	1.04E-1	4.48E-3	5.32E-3	1.14E-1	1.62E-3	1.28E-2	9.55E-5	-4.63E-2	8.20E-2
ETP-fw	CTUe	3.81E+1	7.02E-1	6.44E+0	4.52E+1	3.02E-1	2.78E+1	3.08E-1	-1.38E+1	5.98E+1
HTP-c	CTUh	1.35E-9	4.32E-11	2.52E-10	1.65E-9	1.07E-11	4.12E-10	5.74E-13	-5.26E-10	1.54E-9
HTP-nc	CTUh	4.32E-8	6.22E-10	1.19E-8	5.58E-8	3.59E-10	9.78E-9	5.97E-11	-1.82E-8	4.78E-8
SQP	Pt	6.02E+0	2.77E-1	8.30E-1	7.13E+0	3.18E-1	2.28E+0	5.31E-2	-2.56E+0	7.22E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.24E+0	8.46E-3	1.39E+1	1.61E+1	5.33E-3	2.65E-1	7.73E-4	-1.04E+0	1.54E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.24E+0	8.46E-3	1.39E+1	1.61E+1	5.33E-3	2.65E-1	7.73E-4	-1.04E+0	1.54E+1
PENRE	MJ	5.10E+1	1.11E+0	2.46E+0	5.45E+1	3.94E-1	3.91E+0	2.21E-2	-2.67E+1	3.21E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.10E+1	1.11E+0	2.46E+0	5.45E+1	3.94E-1	3.91E+0	2.21E-2	-2.67E+1	3.21E+1
PET	MJ	5.32E+1	1.11E+0	1.64E+1	7.07E+1	4.00E-1	4.17E+0	2.28E-2	-2.78E+1	4.75E+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	3.26E-2	6.58E-5	2.00E-3	3.47E-2	4.20E-5	3.96E-3	2.54E-5	-1.51E-2	2.36E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.54E-4	1.26E-6	1.71E-5	1.72E-4	9.50E-7	5.93E-6	2.53E-8	-2.00E-5	1.59E-4
NHWD	kg	1.71E-1	1.37E-2	3.58E-3	1.88E-1	2.30E-2	1.35E-1	9.20E-2	-7.64E-2	3.62E-1
RWD	kg	9.52E-5	7.21E-6	4.53E-6	1.07E-4	2.53E-6	1.37E-5	1.35E-7	-4.08E-5	8.26E-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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