Environmental Profile

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

Ecochain v3.5.71

Product:	3036725 - OsmaS PVCU Brch 90° WT 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	1.74E+0	2.40E-2	2.03E-1	1.97E+0	2.10E-2	6.00E-1	9.53E-3	-8.32E-1	1.77E+0
GWP-f	kg CO2 eq	1.68E+0	2.40E-2	1.99E-1	1.90E+0	2.10E-2	6.01E-1	9.53E-3	-8.25E-1	1.71E+0
GWP-b	kg CO2 eq	5.69E-2	1.45E-5	4.17E-3	6.11E-2	1.28E-5	-8.45E-4	7.06E-6	-6.16E-3	5.41E-2
GWP-luluc	kg CO2 eq	5.26E-3	8.53E-6	1.82E-4	5.45E-3	7.43E-6	1.18E-4	3.72E-7	-5.66E-4	5.01E-3
ODP	kg CFC11 eq	1.42E-7	5.53E-9	1.65E-8	1.65E-7	4.84E-9	1.54E-8	2.60E-10	-4.31E-7	-2.46E-7
AP	mol H+ eq	1.69E-2	1.40E-4	1.10E-3	1.82E-2	1.20E-4	6.29E-4	7.13E-6	-3.32E-3	1.56E-2
EP-fw	kg P eq	1.79E-4	1.97E-7	2.80E-6	1.82E-4	1.73E-7	3.40E-6	1.41E-8	-3.23E-5	1.53E-4
EP-m	kg N eq	3.36E-3	4.96E-5	2.07E-4	3.62E-3	4.28E-5	1.80E-4	2.78E-6	-5.67E-4	3.28E-3
EP-T	mol N eq	4.19E-2	5.47E-4	2.28E-3	4.47E-2	4.72E-4	1.97E-3	2.67E-5	-6.03E-3	4.12E-2
POCP	kg NMVOC eq	9.77E-3	1.56E-4	9.56E-4	1.09E-2	1.35E-4	6.24E-4	9.72E-6	-2.12E-3	9.54E-3
ADP-mm	kg Sb eq	3.58E-2	6.19E-7	5.26E-6	3.59E-2	5.43E-7	2.57E-6	8.82E-9	-1.80E-5	3.58E-2
ADP-f	MJ	2.67E+1	3.68E-1	2.20E+0	2.92E+1	3.22E-1	2.06E+0	1.98E-2	-2.09E+1	1.08E+1
WDP	m3 depriv.	1.83E+0	1.13E-3	6.40E-2	1.89E+0	9.90E-4	3.82E-2	8.05E-4	-1.27E+0	6.65E-1
PM	disease inc.	7.85E-8	2.16E-9	7.64E-9	8.83E-8	1.90E-9	1.05E-8	1.37E-10	-2.14E-8	7.94E-8
IR	kBq U-235 eq	1.66E-1	1.61E-3	5.10E-3	1.73E-1	1.41E-3	6.18E-3	7.88E-5	-4.05E-2	1.40E-1
ETP-fw	CTUe	3.44E+2	2.99E-1	6.06E+0	3.50E+2	2.62E-1	2.34E+0	1.71E-2	-1.21E+1	3.41E+2
HTP-c	CTUh	8.19E-9	1.07E-11	2.38E-10	8.43E-9	9.32E-12	6.79E-10	1.01E-12	-4.60E-10	8.66E-9
HTP-nc	CTUh	2.41E-7	3.56E-10	1.14E-8	2.53E-7	3.12E-10	4.47E-9	1.40E-11	-1.60E-8	2.42E-7
SQP	Pt	1.36E+1	3.14E-1	7.82E-1	1.47E+1	2.76E-1	1.64E+0	4.73E-2	-2.23E+0	1.45E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.42E+0	5.27E-3	1.30E+1	1.64E+1	4.63E-3	1.01E-1	3.73E-4	-9.19E-1	1.56E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.42E+0	5.27E-3	1.30E+1	1.64E+1	4.63E-3	1.01E-1	3.73E-4	-9.19E-1	1.56E+1
PENRE	MJ	2.84E+1	3.91E-1	2.33E+0	3.11E+1	3.42E-1	2.20E+0	2.10E-2	-2.24E+1	1.12E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.84E+1	3.91E-1	2.33E+0	3.11E+1	3.42E-1	2.20E+0	2.10E-2	-2.24E+1	1.12E+1
PET	MJ	3.18E+1	3.96E-1	1.53E+1	4.75E+1	3.47E-1	2.30E+0	2.14E-2	-2.34E+1	2.68E+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	5.32E-2	4.16E-5	1.91E-3	5.52E-2	3.65E-5	1.15E-3	2.10E-5	-1.33E-2	4.31E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.56E-3	9.39E-7	1.68E-5	4.58E-3	8.25E-7	3.72E-6	2.99E-8	-1.63E-5	4.56E-3
NHWD	kg	3.05E-1	2.27E-2	3.50E-3	3.31E-1	2.00E-2	1.05E-1	8.00E-2	-6.70E-2	4.69E-1
RWD	kg	1.25E-4	2.50E-6	4.44E-6	1.32E-4	2.19E-6	7.85E-6	1.19E-7	-3.56E-5	1.07E-4
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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