

# Environmental Profile

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

Ecochain v3.5.71



Product: 3036366 - OsmaS PVCU Top/Btm Offst Bend 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



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.

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	9.52E-1	3.91E-2	1.08E-1	1.10E+0	1.17E-2	3.77E-1	3.87E-3	-5.28E-1	9.63E-1
GWP-f	kg CO2 eq	9.47E-1	3.91E-2	1.06E-1	1.09E+0	1.17E-2	3.78E-1	3.87E-3	-5.25E-1	9.60E-1
GWP-b	kg CO2 eq	4.36E-3	-3.71E-6	2.17E-3	6.52E-3	7.13E-6	-3.37E-4	4.66E-6	-3.37E-3	2.82E-3
GWP-luluc	kg CO2 eq	7.46E-4	2.40E-5	9.77E-5	8.68E-4	4.16E-6	1.36E-4	9.81E-8	-3.08E-4	7.00E-4
ODP	kg CFC11 eq	4.52E-7	8.12E-9	8.69E-9	4.69E-7	2.71E-9	3.60E-8	1.38E-10	-2.38E-7	2.70E-7
AP	mol H+ eq	4.39E-3	1.03E-3	5.90E-4	6.01E-3	6.69E-5	6.38E-4	3.36E-6	-1.87E-3	4.85E-3
EP-fw	kg P eq	4.01E-5	1.97E-7	1.50E-6	4.18E-5	9.66E-8	4.49E-6	4.42E-9	-1.75E-5	2.89E-5
EP-m	kg N eq	7.33E-4	2.59E-4	1.10E-4	1.10E-3	2.39E-5	1.57E-4	2.33E-6	-3.27E-4	9.59E-4
EP-T	mol N eq	8.03E-3	2.88E-3	1.21E-3	1.21E-2	2.64E-4	1.73E-3	1.34E-5	-3.48E-3	1.06E-2
POCP	kg NMVOC eq	2.92E-3	7.52E-4	5.05E-4	4.18E-3	7.54E-5	5.20E-4	4.65E-6	-1.23E-3	3.55E-3
ADP-mm	kg Sb eq	4.81E-4	4.55E-7	2.83E-6	4.85E-4	3.04E-7	2.50E-6	3.38E-9	-9.72E-6	4.78E-4
ADP-f	MJ	2.54E+1	5.23E-1	1.17E+0	2.71E+1	1.80E-1	1.75E+0	1.01E-2	-1.28E+1	1.62E+1
WDP	m3 depriv.	1.41E+0	9.84E-4	3.39E-2	1.45E+0	5.53E-4	6.70E-2	6.81E-5	-6.89E-1	8.28E-1
PM	disease inc.	3.22E-8	1.73E-9	4.09E-9	3.80E-8	1.06E-9	8.03E-9	6.94E-11	-1.20E-8	3.52E-8
IR	kBq U-235 eq	5.35E-2	2.25E-3	2.70E-3	5.85E-2	7.88E-4	6.08E-3	4.65E-5	-2.22E-2	4.32E-2
ETP-fw	CTUe	1.90E+1	3.60E-1	3.24E+0	2.26E+1	1.46E-1	1.27E+1	1.40E-1	-6.61E+0	2.90E+1
HTP-c	CTUh	6.59E-10	2.11E-11	1.27E-10	8.08E-10	5.21E-12	2.03E-10	2.78E-13	-2.53E-10	7.64E-10
HTP-nc	CTUh	2.08E-8	3.31E-10	6.04E-9	2.71E-8	1.74E-10	4.61E-9	2.75E-11	-8.68E-9	2.33E-8
SQP	Pt	3.26E+0	1.69E-1	4.19E-1	3.85E+0	1.54E-1	1.10E+0	2.58E-2	-1.23E+0	3.90E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.15E+0	4.56E-3	6.99E+0	8.15E+0	2.59E-3	1.24E-1	3.78E-4	-5.00E-1	7.77E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.15E+0	4.56E-3	6.99E+0	8.15E+0	2.59E-3	1.24E-1	3.78E-4	-5.00E-1	7.77E+0
PENRE	MJ	2.72E+1	5.55E-1	1.24E+0	2.90E+1	1.91E-1	1.86E+0	1.07E-2	-1.38E+1	1.73E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.72E+1	5.55E-1	1.24E+0	2.90E+1	1.91E-1	1.86E+0	1.07E-2	-1.38E+1	1.73E+1
PET	MJ	2.84E+1	5.60E-1	8.24E+0	3.72E+1	1.94E-1	1.99E+0	1.11E-2	-1.43E+1	2.51E+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	1.68E-2	3.56E-5	1.01E-3	1.78E-2	2.04E-5	1.86E-3	1.24E-5	-7.29E-3	1.24E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.19E-5	7.03E-7	8.73E-6	8.13E-5	4.61E-7	2.84E-6	1.23E-8	-1.02E-5	7.45E-5
NHWD	kg	8.63E-2	9.39E-3	1.83E-3	9.75E-2	1.12E-2	6.76E-2	4.46E-2	-3.66E-2	1.84E-1
RWD	kg	5.06E-5	3.62E-6	2.31E-6	5.65E-5	1.23E-6	6.57E-6	6.57E-8	-1.97E-5	4.47E-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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