Environmental Profile

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

Ecochain v3.5.71

Product:	3043022 - OsmaS PVCU Spigot Bend TR 90° 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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	8.29E-1	3.58E-2	1.02E-1	9.67E-1	1.10E-2	3.04E-1	3.54E-3	-4.62E-1	8.23E-1
GWP-f	kg CO2 eq	8.23E-1	3.58E-2	9.93E-2	9.58E-1	1.10E-2	3.04E-1	3.53E-3	-4.58E-1	8.18E-1
GWP-b	kg CO2 eq	6.23E-3	-5.47E-6	2.12E-3	8.35E-3	6.67E-6	-3.09E-4	4.34E-6	-3.17E-3	4.88E-3
GWP-luluc	kg CO2 eq	6.63E-4	2.27E-5	9.06E-5	7.77E-4	3.88E-6	1.30E-4	9.18E-8	-2.92E-4	6.19E-4
ODP	kg CFC11 eq	4.38E-7	7.35E-9	8.29E-9	4.54E-7	2.53E-9	3.51E-8	1.29E-10	-2.25E-7	2.67E-7
AP	mol H+ eq	3.82E-3	1.01E-3	5.51E-4	5.38E-3	6.25E-5	6.03E-4	3.14E-6	-1.73E-3	4.32E-3
EP-fw	kg P eq	3.63E-5	1.71E-7	1.40E-6	3.79E-5	9.03E-8	4.33E-6	4.13E-9	-1.66E-5	2.57E-5
EP-m	kg N eq	6.39E-4	2.51E-4	1.04E-4	9.93E-4	2.24E-5	1.46E-4	2.06E-6	-2.99E-4	8.65E-4
EP-T	mol N eq	6.97E-3	2.79E-3	1.14E-3	1.09E-2	2.47E-4	1.61E-3	1.25E-5	-3.18E-3	9.59E-3
POCP	kg NMVOC eq	2.44E-3	7.26E-4	4.80E-4	3.65E-3	7.05E-5	4.84E-4	4.33E-6	-1.12E-3	3.09E-3
ADP-mm	kg Sb eq	4.67E-4	3.74E-7	2.62E-6	4.70E-4	2.84E-7	2.38E-6	3.16E-9	-9.22E-6	4.63E-4
ADP-f	MJ	2.17E+1	4.72E-1	1.10E+0	2.33E+1	1.68E-1	1.66E+0	9.44E-3	-1.13E+1	1.38E+1
WDP	m3 depriv.	1.32E+0	8.35E-4	3.21E-2	1.35E+0	5.17E-4	6.49E-2	6.50E-5	-6.52E-1	7.66E-1
PM	disease inc.	2.69E-8	1.45E-9	3.81E-9	3.22E-8	9.91E-10	7.54E-9	6.49E-11	-1.10E-8	2.97E-8
IR	kBq U-235 eq	4.76E-2	2.03E-3	2.56E-3	5.22E-2	7.36E-4	5.80E-3	4.33E-5	-2.10E-2	3.78E-2
ETP-fw	CTUe	1.74E+1	3.19E-1	3.02E+0	2.07E+1	1.37E-1	1.25E+1	1.38E-1	-6.25E+0	2.72E+1
HTP-c	CTUh	6.15E-10	1.95E-11	1.18E-10	7.53E-10	4.87E-12	1.87E-10	2.61E-13	-2.38E-10	7.07E-10
HTP-nc	CTUh	1.96E-8	2.84E-10	5.75E-9	2.56E-8	1.63E-10	4.41E-9	2.68E-11	-8.23E-9	2.20E-8
SQP	Pt	2.76E+0	1.29E-1	3.90E-1	3.28E+0	1.44E-1	1.03E+0	2.41E-2	-1.16E+0	3.33E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.01E+0	3.87E-3	6.47E+0	7.49E+0	2.42E-3	1.19E-1	3.50E-4	-4.73E-1	7.14E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.01E+0	3.87E-3	6.47E+0	7.49E+0	2.42E-3	1.19E-1	3.50E-4	-4.73E-1	7.14E+0
PENRE	MJ	2.33E+1	5.01E-1	1.17E+0	2.49E+1	1.79E-1	1.77E+0	1.00E-2	-1.21E+1	1.47E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.33E+1	5.01E-1	1.17E+0	2.49E+1	1.79E-1	1.77E+0	1.00E-2	-1.21E+1	1.47E+1
PET	MJ	2.43E+1	5.05E-1	7.64E+0	3.24E+1	1.81E-1	1.89E+0	1.04E-2	-1.26E+1	2.19E+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	1.48E-2	3.01E-5	9.55E-4	1.58E-2	1.91E-5	1.78E-3	1.15E-5	-6.84E-3	1.07E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.08E-5	5.80E-7	8.49E-6	7.99E-5	4.31E-7	2.68E-6	1.15E-8	-9.06E-6	7.40E-5
NHWD	kg	7.78E-2	6.48E-3	1.77E-3	8.60E-2	1.04E-2	6.12E-2	4.17E-2	-3.46E-2	1.65E-1
RWD	kg	4.41E-5	3.27E-6	2.25E-6	4.96E-5	1.15E-6	6.21E-6	6.14E-8	-1.85E-5	3.85E-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

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777