Environmental Profile

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

Ecochain v3.5.71

Product:	3038205 - OsmaDrain NIC Shaft BK 500 L=1.5 P/E
Unit:	1 piece
Manufacturer:	Wavin - UK - Chippenham - Verified

Wavin OsmaDrain - the definitive & comprehensive PVC-U gravity drainage system for residential, commercial & industrial projects. The source for all types of gravity drainage, sewer installation & pressure pipe systems in any private or public development. One of the UK's most trusted & leading names in plastic drainage systems.

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	4.59E+0	1.07E+0	2.60E+0	8.25E+0	3.67E-1	1.06E+1	1.67E-1	-1.10E-1	1.93E+1
GWP-f	kg CO2 eq	3.81E+0	1.06E+0	2.53E+0	7.40E+0	3.66E-1	1.06E+1	1.67E-1	-1.30E-1	1.84E+1
GWP-b	kg CO2 eq	7.80E-1	6.05E-4	6.56E-2	8.46E-1	2.22E-4	-1.35E-2	1.28E-4	1.96E-2	8.53E-1
GWP-luluc	kg CO2 eq	6.07E-3	3.90E-4	2.13E-3	8.59E-3	1.30E-4	2.06E-3	2.67E-6	9.91E-4	1.18E-2
ODP	kg CFC11 eq	6.00E-7	2.44E-7	2.29E-7	1.07E-6	8.44E-8	2.69E-7	4.08E-9	-4.92E-7	9.39E-7
AP	mol H+ eq	2.12E-2	7.43E-3	1.36E-2	4.23E-2	2.09E-3	1.12E-2	9.56E-5	1.16E-2	6.73E-2
EP-fw	kg P eq	2.85E-4	8.54E-6	3.51E-5	3.29E-4	3.01E-6	5.94E-5	1.20E-7	5.72E-5	4.49E-4
EP-m	kg N eq	3.32E-3	2.48E-3	2.70E-3	8.50E-3	7.47E-4	3.23E-3	6.32E-5	1.50E-3	1.40E-2
EP-T	mol N eq	3.65E-2	2.74E-2	2.94E-2	9.32E-2	8.23E-3	3.55E-2	3.88E-4	1.69E-2	1.54E-1
POCP	kg NMVOC eq	9.91E-3	7.69E-3	1.30E-2	3.06E-2	2.35E-3	1.13E-2	1.47E-4	1.05E-2	5.48E-2
ADP-mm	kg Sb eq	1.19E-4	2.66E-5	6.14E-5	2.07E-4	9.48E-6	4.47E-5	9.56E-8	3.25E-5	2.94E-4
ADP-f	MJ	8.21E+1	1.62E+1	2.80E+1	1.26E+2	5.62E+0	3.58E+1	2.94E-1	7.90E+1	2.47E+2
WDP	m3 depriv.	7.98E-1	4.87E-2	8.52E-1	1.70E+0	1.73E-2	6.96E-1	1.56E-3	2.94E+0	5.36E+0
PM	disease inc.	2.64E-7	9.31E-8	9.29E-8	4.50E-7	3.31E-8	1.86E-7	2.01E-9	1.14E-7	7.85E-7
IR	kBq U-235 eq	5.30E-1	7.08E-2	6.96E-2	6.71E-1	2.46E-2	1.08E-1	1.36E-3	6.86E-2	8.73E-1
ETP-fw	CTUe	1.14E+2	1.31E+1	7.26E+1	2.00E+2	4.57E+0	4.04E+1	2.48E-1	1.22E+1	2.57E+2
HTP-c	CTUh	2.25E-9	4.77E-10	2.85E-9	5.57E-9	1.62E-10	4.81E-9	6.91E-12	7.14E-10	1.13E-8
HTP-nc	CTUh	5.32E-8	1.54E-8	1.58E-7	2.26E-7	5.44E-9	6.01E-8	1.57E-10	1.74E-8	3.09E-7
SQP	Pt	2.98E+1	1.34E+1	9.50E+0	5.27E+1	4.81E+0	2.88E+1	7.42E-1	2.26E+0	8.93E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.94E+0	2.28E-1	1.50E+2	1.61E+2	8.07E-2	1.76E+0	1.07E-2	2.09E+0	1.65E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.94E+0	2.28E-1	1.50E+2	1.61E+2	8.07E-2	1.76E+0	1.07E-2	2.09E+0	1.65E+2
PENRE	MJ	8.67E+1	1.72E+1	2.97E+1	1.34E+2	5.97E+0	3.82E+1	3.12E-1	8.22E+1	2.60E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.67E+1	1.72E+1	2.97E+1	1.34E+2	5.97E+0	3.82E+1	3.12E-1	8.22E+1	2.60E+2
PET	MJ	9.67E+1	1.74E+1	1.80E+2	2.94E+2	6.05E+0	4.00E+1	3.23E-1	8.43E+1	4.25E+2
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	4.76E-2	1.79E-3	2.47E-2	7.41E-2	6.36E-4	2.03E-2	3.61E-4	4.41E-2	1.40E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.45E-5	4.04E-5	2.58E-4	3.63E-4	1.44E-5	5.83E-5	3.53E-7	-7.36E-5	3.62E-4
NHWD	kg	6.41E-1	9.67E-1	5.28E-2	1.66E+0	3.49E-1	1.76E+0	1.39E+0	8.97E-2	5.26E+0
RWD	kg	5.13E-4	1.10E-4	6.84E-5	6.92E-4	3.82E-5	1.37E-4	1.93E-6	5.14E-5	9.21E-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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