

# Environmental Profile

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

Ecochain v3.5.71



Product: 3034160 - OsmaDrain 450mm RD Cover & Frame 15kN BK  
 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



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.

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

This document and supporting material contain confidential and proprietary business information of Wavin - UK - Chippenham - Verified. These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - UK - Chippenham - Verified.

# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.10E+0	2.27E-1	1.41E+0	6.74E+0	9.55E-2	3.15E+0	4.50E-2	-2.85E+0	7.18E+0
GWP-f	kg CO2 eq	5.36E+0	2.27E-1	1.40E+0	6.98E+0	9.54E-2	2.78E+0	4.50E-2	-2.84E+0	7.06E+0
GWP-b	kg CO2 eq	-2.61E-1	1.31E-4	1.56E-2	-2.45E-1	5.80E-5	3.69E-1	3.93E-5	-7.45E-3	1.17E-1
GWP-luluc	kg CO2 eq	2.21E-3	8.25E-5	1.49E-3	3.78E-3	3.38E-5	5.38E-4	7.54E-7	-5.90E-4	3.76E-3
ODP	kg CFC11 eq	1.61E-7	5.20E-8	9.44E-8	3.07E-7	2.20E-8	7.05E-8	1.13E-9	-1.44E-7	2.57E-7
AP	mol H+ eq	2.03E-2	1.51E-3	8.27E-3	3.01E-2	5.44E-4	2.96E-3	2.68E-5	-7.13E-3	2.65E-2
EP-fw	kg P eq	1.11E-4	1.83E-6	2.04E-5	1.33E-4	7.85E-7	1.56E-5	3.48E-8	-2.90E-5	1.20E-4
EP-m	kg N eq	3.40E-3	5.12E-4	1.38E-3	5.29E-3	1.95E-4	8.63E-4	1.76E-5	-1.35E-3	5.02E-3
EP-T	mol N eq	3.79E-2	5.65E-3	1.56E-2	5.92E-2	2.14E-3	9.50E-3	1.09E-4	-1.50E-2	5.60E-2
POCP	kg NMVOC eq	1.66E-2	1.60E-3	5.84E-3	2.41E-2	6.13E-4	3.00E-3	4.10E-5	-6.72E-3	2.10E-2
ADP-mm	kg Sb eq	7.27E-5	5.71E-6	4.33E-5	1.22E-4	2.47E-6	1.17E-5	2.70E-8	-1.57E-5	1.20E-4
ADP-f	MJ	1.80E+2	3.46E+0	1.55E+1	1.99E+2	1.47E+0	9.36E+0	8.23E-2	-8.01E+1	1.30E+2
WDP	m3 depriv.	3.40E+0	1.04E-2	4.10E-1	3.82E+0	4.50E-3	1.83E-1	3.77E-4	-1.26E+0	2.75E+0
PM	disease inc.	1.96E-7	2.00E-8	5.87E-8	2.75E-7	8.62E-9	4.87E-8	5.66E-10	-6.28E-8	2.70E-7
IR	kBq U-235 eq	1.54E-1	1.51E-2	3.08E-2	2.00E-1	6.40E-3	2.83E-2	3.82E-4	-3.65E-2	1.98E-1
ETP-fw	CTUe	4.35E+1	2.79E+0	4.77E+1	9.40E+1	1.19E+0	1.06E+1	6.89E-2	-1.23E+1	9.35E+1
HTP-c	CTUh	4.82E-9	1.01E-10	1.87E-9	6.79E-9	4.23E-11	1.25E-9	1.98E-12	-5.45E-10	7.54E-9
HTP-nc	CTUh	4.54E-8	3.30E-9	6.73E-8	1.16E-7	1.42E-9	1.57E-8	4.42E-11	-3.28E-9	1.30E-7
SQP	Pt	4.07E+1	2.89E+0	6.02E+0	4.96E+1	1.25E+0	7.50E+0	2.11E-1	-2.84E+1	3.02E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.61E+0	4.88E-2	1.08E+2	1.17E+2	2.10E-2	4.62E-1	3.21E-3	-4.80E+0	1.13E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.61E+0	4.88E-2	1.08E+2	1.17E+2	2.10E-2	4.62E-1	3.21E-3	-4.80E+0	1.13E+2
PENRE	MJ	1.93E+2	3.67E+0	1.65E+1	2.13E+2	1.56E+0	9.97E+0	8.73E-2	-8.65E+1	1.39E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.93E+2	3.67E+0	1.65E+1	2.13E+2	1.56E+0	9.97E+0	8.73E-2	-8.65E+1	1.39E+2
PET	MJ	2.02E+2	3.72E+0	1.25E+2	3.31E+2	1.58E+0	1.04E+1	9.05E-2	-9.13E+1	2.51E+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	5.53E-2	3.85E-4	1.29E-2	6.86E-2	1.66E-4	5.39E-3	1.02E-4	-1.93E-2	5.50E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.23E-5	8.68E-6	6.87E-5	1.10E-4	3.75E-6	1.53E-5	9.88E-8	-3.42E-5	9.46E-5
NHWD	kg	4.91E-1	2.08E-1	1.55E-2	7.14E-1	9.08E-2	4.60E-1	3.63E-1	-7.62E-2	1.55E+0
RWD	kg	1.39E-4	2.36E-5	1.82E-5	1.81E-4	9.96E-6	3.59E-5	5.38E-7	-3.52E-5	1.92E-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



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