Environmental Profile

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

Ecochain v3.5.71

Product:	3039653 - Wavin UR Adapt-URSktxBSSkt BN 150 SN8 D/
Unit:	1 piece
Manufacturer:	Wavin - UK - Chippenham - Verified

Wavin Osma UltraRib Corrugated pipe systems are designed for use in gravity drainage and sewerage installations at depths of up to 10 metres. Osma UltraRib is a fully socketed system of pipe and fittings which combines secure jointing with ease of installation.

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	1.19E+0	5.16E-2	1.43E-1	1.38E+0	1.57E-2	4.34E-1	5.17E-3	-6.61E-1	1.18E+0
GWP-f	kg CO2 eq	1.18E+0	5.16E-2	1.40E-1	1.37E+0	1.57E-2	4.34E-1	5.17E-3	-6.56E-1	1.17E+0
GWP-b	kg CO2 eq	7.88E-3	-5.29E-6	3.01E-3	1.09E-2	9.51E-6	-4.52E-4	6.22E-6	-4.47E-3	5.98E-3
GWP-luluc	kg CO2 eq	9.41E-4	3.18E-5	1.27E-4	1.10E-3	5.54E-6	1.80E-4	1.30E-7	-4.09E-4	8.77E-4
ODP	kg CFC11 eq	5.95E-7	1.07E-8	1.17E-8	6.18E-7	3.61E-9	4.78E-8	1.85E-10	-3.13E-7	3.56E-7
AP	mol H+ eq	5.51E-3	1.37E-3	7.76E-4	7.66E-3	8.92E-5	8.39E-4	4.49E-6	-2.46E-3	6.14E-3
EP-fw	kg P eq	5.13E-5	2.58E-7	1.97E-6	5.35E-5	1.29E-7	5.98E-6	5.89E-9	-2.33E-5	3.63E-5
EP-m	kg N eq	9.14E-4	3.45E-4	1.46E-4	1.40E-3	3.19E-5	2.05E-4	3.13E-6	-4.25E-4	1.22E-3
EP-T	mol N eq	1.00E-2	3.83E-3	1.61E-3	1.55E-2	3.52E-4	2.26E-3	1.79E-5	-4.53E-3	1.36E-2
POCP	kg NMVOC eq	3.58E-3	1.00E-3	6.78E-4	5.26E-3	1.01E-4	6.79E-4	6.21E-6	-1.60E-3	4.44E-3
ADP-mm	kg Sb eq	6.45E-4	5.93E-7	3.68E-6	6.49E-4	4.05E-7	3.31E-6	4.50E-9	-1.29E-5	6.40E-4
ADP-f	MJ	3.14E+1	6.89E-1	1.55E+0	3.36E+1	2.40E-1	2.32E+0	1.35E-2	-1.63E+1	1.99E+1
WDP	m3 depriv.	1.84E+0	1.29E-3	4.53E-2	1.88E+0	7.38E-4	8.92E-2	8.92E-5	-9.16E-1	1.06E+0
PM	disease inc.	3.90E-8	2.26E-9	5.36E-9	4.66E-8	1.41E-9	1.06E-8	9.27E-11	-1.58E-8	4.29E-8
IR	kBq U-235 eq	6.79E-2	2.97E-3	3.62E-3	7.45E-2	1.05E-3	8.06E-3	6.20E-5	-2.94E-2	5.42E-2
ETP-fw	CTUe	2.44E+1	4.73E-1	4.24E+0	2.91E+1	1.95E-1	1.69E+1	1.87E-1	-8.76E+0	3.76E+1
HTP-c	CTUh	8.65E-10	2.78E-11	1.66E-10	1.06E-9	6.95E-12	2.61E-10	3.70E-13	-3.34E-10	9.93E-10
HTP-nc	CTUh	2.72E-8	4.33E-10	8.13E-9	3.58E-8	2.33E-10	6.07E-9	3.66E-11	-1.15E-8	3.06E-8
SQP	Pt	4.03E+0	2.19E-1	5.49E-1	4.79E+0	2.06E-1	1.46E+0	3.44E-2	-1.62E+0	4.87E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.45E+0	5.96E-3	9.09E+0	1.05E+1	3.45E-3	1.65E-1	5.06E-4	-6.65E-1	1.00E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.45E+0	5.96E-3	9.09E+0	1.05E+1	3.45E-3	1.65E-1	5.06E-4	-6.65E-1	1.00E+1
PENRE	MJ	3.37E+1	7.31E-1	1.64E+0	3.60E+1	2.55E-1	2.47E+0	1.43E-2	-1.75E+1	2.12E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.37E+1	7.31E-1	1.64E+0	3.60E+1	2.55E-1	2.47E+0	1.43E-2	-1.75E+1	2.12E+1
PET	MJ	3.51E+1	7.37E-1	1.07E+1	4.66E+1	2.59E-1	2.63E+0	1.48E-2	-1.82E+1	3.13E+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	2.13E-2	4.65E-5	1.35E-3	2.27E-2	2.72E-5	2.46E-3	1.65E-5	-9.66E-3	1.55E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.56E-5	9.15E-7	1.21E-5	1.09E-4	6.15E-7	3.75E-6	1.64E-8	-1.27E-5	1.00E-4
NHWD	kg	1.11E-1	1.20E-2	2.51E-3	1.25E-1	1.49E-2	8.66E-2	5.96E-2	-4.86E-2	2.38E-1
RWD	kg	6.32E-5	4.76E-6	3.20E-6	7.11E-5	1.63E-6	8.69E-6	8.77E-8	-2.59E-5	5.56E-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