Environmental Profile

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

Ecochain v3.5.71

Product:	3038911 - Wavin UR Pipe BN BSEN13476 225 SN8 L=3 S
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	2.40E+1	1.22E+0	1.54E+0	2.68E+1	3.76E-1	1.28E+1	1.11E-1	-1.48E+1	2.53E+1
GWP-f	kg CO2 eq	2.67E+1	1.22E+0	1.47E+0	2.94E+1	3.76E-1	9.85E+0	1.11E-1	-1.47E+1	2.51E+1
GWP-b	kg CO2 eq	-2.73E+0	-1.94E-4	7.37E-2	-2.66E+0	2.28E-4	2.98E+0	1.40E-4	-1.04E-1	2.23E-1
GWP-luluc	kg CO2 eq	2.63E-2	7.76E-4	6.97E-4	2.78E-2	1.33E-4	4.48E-3	3.04E-6	-1.00E-2	2.23E-2
ODP	kg CFC11 eq	1.46E-5	2.50E-7	1.89E-7	1.50E-5	8.66E-8	1.21E-6	4.34E-9	-7.46E-6	8.89E-6
AP	mol H+ eq	1.31E-1	3.44E-2	6.64E-3	1.72E-1	2.14E-3	2.09E-2	1.05E-4	-5.74E-2	1.38E-1
EP-fw	kg P eq	1.30E-3	5.77E-6	1.86E-5	1.32E-3	3.09E-6	1.49E-4	1.36E-7	-5.52E-4	9.24E-4
EP-m	kg N eq	2.28E-2	8.57E-3	1.76E-3	3.31E-2	7.66E-4	5.12E-3	6.33E-5	-1.01E-2	2.90E-2
EP-T	mol N eq	2.52E-1	9.53E-2	1.81E-2	3.65E-1	8.44E-3	5.64E-2	4.18E-4	-1.09E-1	3.22E-1
POCP	kg NMVOC eq	8.09E-2	2.48E-2	9.82E-3	1.16E-1	2.41E-3	1.69E-2	1.43E-4	-3.69E-2	9.82E-2
ADP-mm	kg Sb eq	3.64E-2	1.26E-5	1.95E-5	3.64E-2	9.72E-6	8.20E-5	1.05E-7	-3.04E-4	3.62E-2
ADP-f	MJ	6.66E+2	1.60E+1	1.62E+1	6.98E+2	5.77E+0	5.72E+1	3.16E-1	-3.58E+2	4.04E+2
WDP	m3 depriv.	4.47E+1	2.81E-2	6.01E-1	4.54E+1	1.77E-2	2.23E+0	2.20E-3	-2.14E+1	2.62E+1
PM	disease inc.	9.48E-7	4.87E-8	4.13E-8	1.04E-6	3.39E-8	2.61E-7	2.17E-9	-3.79E-7	9.57E-7
IR	kBq U-235 eq	1.56E+0	6.90E-2	5.36E-2	1.68E+0	2.52E-2	2.00E-1	1.44E-3	-6.93E-1	1.21E+0
ETP-fw	CTUe	7.71E+2	1.08E+1	2.92E+1	8.11E+2	4.69E+0	4.28E+2	4.72E+0	-2.19E+2	1.03E+3
HTP-c	CTUh	2.51E-8	6.65E-10	1.15E-9	2.70E-8	1.67E-10	6.60E-9	8.61E-12	-8.02E-9	2.57E-8
HTP-nc	CTUh	7.99E-7	9.58E-9	1.26E-7	9.34E-7	5.59E-9	1.52E-7	9.11E-10	-2.77E-7	8.16E-7
SQP	Pt	3.64E+2	4.29E+0	4.21E+0	3.73E+2	4.94E+0	3.57E+1	8.02E-1	-9.61E+1	3.18E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.53E+1	1.30E-1	4.39E+1	1.19E+2	8.28E-2	4.10E+0	1.13E-2	-2.72E+1	9.63E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.53E+1	1.30E-1	4.39E+1	1.19E+2	8.28E-2	4.10E+0	1.13E-2	-2.72E+1	9.63E+1
PENRE	MJ	7.14E+2	1.70E+1	1.72E+1	7.48E+2	6.13E+0	6.08E+1	3.35E-1	-3.85E+2	4.30E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.14E+2	1.70E+1	1.72E+1	7.48E+2	6.13E+0	6.08E+1	3.35E-1	-3.85E+2	4.30E+2
PET	MJ	7.90E+2	1.71E+1	6.11E+1	8.68E+2	6.21E+0	6.49E+1	3.46E-1	-4.13E+2	5.27E+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	5.04E-1	1.01E-3	1.56E-2	5.21E-1	6.53E-4	6.11E-2	3.85E-4	-2.24E-1	3.59E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.07E-3	1.95E-5	2.77E-4	5.37E-3	1.48E-5	9.24E-5	3.85E-7	-2.98E-4	5.18E-3
NHWD	kg	2.83E+0	2.13E-1	5.42E-2	3.09E+0	3.58E-1	2.14E+0	1.43E+0	-1.16E+0	5.86E+0
RWD	kg	1.34E-3	1.11E-4	7.34E-5	1.53E-3	3.92E-5	2.15E-4	2.06E-6	-6.12E-4	1.17E-3
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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