Environmental Profile

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

Ecochain v3.5.71

Product:	3037883 - Wavin UR Pipe BN BSEN13476 150 SN8 L=3 P
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	1.25E+1	6.21E-1	7.92E-1	1.39E+1	1.93E-1	6.38E+0	5.71E-2	-7.59E+0	1.29E+1
GWP-f	kg CO2 eq	1.37E+1	6.21E-1	7.54E-1	1.50E+1	1.93E-1	5.05E+0	5.71E-2	-7.53E+0	1.28E+1
GWP-b	kg CO2 eq	-1.20E+0	-1.01E-4	3.78E-2	-1.16E+0	1.17E-4	1.33E+0	7.19E-5	-5.31E-2	1.15E-1
GWP-luluc	kg CO2 eq	1.34E-2	3.97E-4	3.58E-4	1.41E-2	6.82E-5	2.30E-3	1.56E-6	-5.12E-3	1.14E-2
ODP	kg CFC11 eq	7.49E-6	1.27E-7	9.68E-8	7.71E-6	4.44E-8	6.19E-7	2.23E-9	-3.83E-6	4.55E-6
AP	mol H+ eq	6.68E-2	1.76E-2	3.41E-3	8.78E-2	1.10E-3	1.07E-2	5.38E-5	-2.94E-2	7.03E-2
EP-fw	kg P eq	6.65E-4	2.94E-6	9.52E-6	6.77E-4	1.59E-6	7.64E-5	6.98E-8	-2.83E-4	4.73E-4
EP-m	kg N eq	1.16E-2	4.39E-3	9.03E-4	1.69E-2	3.93E-4	2.62E-3	3.25E-5	-5.14E-3	1.48E-2
EP-T	mol N eq	1.28E-1	4.88E-2	9.29E-3	1.87E-1	4.33E-3	2.89E-2	2.15E-4	-5.56E-2	1.64E-1
POCP	kg NMVOC eq	4.13E-2	1.27E-2	5.04E-3	5.90E-2	1.24E-3	8.65E-3	7.33E-5	-1.88E-2	5.02E-2
ADP-mm	kg Sb eq	1.87E-2	6.38E-6	1.00E-5	1.87E-2	4.99E-6	4.21E-5	5.39E-8	-1.56E-4	1.86E-2
ADP-f	MJ	3.41E+2	8.18E+0	8.28E+0	3.58E+2	2.96E+0	2.93E+1	1.62E-1	-1.83E+2	2.07E+2
WDP	m3 depriv.	2.29E+1	1.43E-2	3.08E-1	2.33E+1	9.08E-3	1.14E+0	1.13E-3	-1.10E+1	1.34E+1
PM	disease inc.	4.76E-7	2.48E-8	2.12E-8	5.22E-7	1.74E-8	1.34E-7	1.11E-9	-1.93E-7	4.81E-7
IR	kBq U-235 eq	7.96E-1	3.52E-2	2.75E-2	8.59E-1	1.29E-2	1.02E-1	7.40E-4	-3.55E-1	6.20E-1
ETP-fw	CTUe	3.95E+2	5.51E+0	1.50E+1	4.15E+2	2.40E+0	2.19E+2	2.42E+0	-1.11E+2	5.28E+2
HTP-c	CTUh	1.28E-8	3.40E-10	5.91E-10	1.37E-8	8.55E-11	3.37E-9	4.42E-12	-4.10E-9	1.31E-8
HTP-nc	CTUh	4.09E-7	4.87E-9	6.44E-8	4.78E-7	2.87E-9	7.77E-8	4.67E-10	-1.42E-7	4.18E-7
SQP	Pt	1.68E+2	2.16E+0	2.16E+0	1.73E+2	2.53E+0	1.83E+1	4.11E-1	-4.53E+1	1.48E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.58E+1	6.63E-2	2.25E+1	5.84E+1	4.25E-2	2.10E+0	5.82E-3	-1.32E+1	4.74E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.58E+1	6.63E-2	2.25E+1	5.84E+1	4.25E-2	2.10E+0	5.82E-3	-1.32E+1	4.74E+1
PENRE	MJ	3.66E+2	8.68E+0	8.80E+0	3.83E+2	3.14E+0	3.12E+1	1.72E-1	-1.98E+2	2.20E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.66E+2	8.68E+0	8.80E+0	3.83E+2	3.14E+0	3.12E+1	1.72E-1	-1.98E+2	2.20E+2
PET	MJ	4.02E+2	8.75E+0	3.13E+1	4.42E+2	3.18E+0	3.33E+1	1.78E-1	-2.11E+2	2.68E+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	2.58E-1	5.15E-4	8.02E-3	2.67E-1	3.35E-4	3.13E-2	1.98E-4	-1.15E-1	1.84E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.60E-3	9.88E-6	1.42E-4	2.75E-3	7.57E-6	4.73E-5	1.97E-7	-1.53E-4	2.66E-3
NHWD	kg	1.44E+0	1.06E-1	2.78E-2	1.57E+0	1.83E-1	1.10E+0	7.33E-1	-5.95E-1	2.99E+0
RWD	kg	6.87E-4	5.67E-5	3.76E-5	7.81E-4	2.01E-5	1.10E-4	1.05E-6	-3.14E-4	5.99E-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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