Environmental Profile

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

Ecochain v3.5.71

Product:	3039698 - Wavin UR Pipe BN BSEN13476 150 SN8 L=6 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	2.67E+1	1.25E+0	1.62E+0	2.96E+1	3.95E-1	1.16E+1	1.17E-1	-1.55E+1	2.62E+1
GWP-f	kg CO2 eq	2.77E+1	1.25E+0	1.54E+0	3.05E+1	3.94E-1	1.03E+1	1.17E-1	-1.54E+1	2.60E+1
GWP-b	kg CO2 eq	-1.05E+0	-2.18E-4	7.73E-2	-9.76E-1	2.39E-4	1.32E+0	1.47E-4	-1.09E-1	2.36E-1
GWP-luluc	kg CO2 eq	2.65E-2	8.05E-4	7.31E-4	2.80E-2	1.40E-4	4.69E-3	3.19E-6	-1.03E-2	2.26E-2
ODP	kg CFC11 eq	1.53E-5	2.56E-7	1.98E-7	1.57E-5	9.09E-8	1.26E-6	4.55E-9	-7.82E-6	9.28E-6
AP	mol H+ eq	1.35E-1	3.59E-2	6.96E-3	1.78E-1	2.25E-3	2.18E-2	1.10E-4	-5.94E-2	1.43E-1
EP-fw	kg P eq	1.35E-3	5.86E-6	1.95E-5	1.37E-3	3.24E-6	1.56E-4	1.43E-7	-5.76E-4	9.56E-4
EP-m	kg N eq	2.33E-2	8.94E-3	1.85E-3	3.41E-2	8.04E-4	5.29E-3	6.64E-5	-1.03E-2	2.99E-2
EP-T	mol N eq	2.57E-1	9.94E-2	1.90E-2	3.75E-1	8.86E-3	5.83E-2	4.39E-4	-1.11E-1	3.32E-1
POCP	kg NMVOC eq	8.29E-2	2.59E-2	1.03E-2	1.19E-1	2.53E-3	1.75E-2	1.50E-4	-3.80E-2	1.01E-1
ADP-mm	kg Sb eq	3.81E-2	1.26E-5	2.05E-5	3.82E-2	1.02E-5	8.58E-5	1.10E-7	-3.18E-4	3.79E-2
ADP-f	MJ	6.94E+2	1.64E+1	1.69E+1	7.28E+2	6.05E+0	5.98E+1	3.31E-1	-3.75E+2	4.19E+2
WDP	m3 depriv.	4.68E+1	2.84E-2	6.30E-1	4.75E+1	1.86E-2	2.33E+0	2.30E-3	-2.24E+1	2.74E+1
PM	disease inc.	9.01E-7	4.90E-8	4.33E-8	9.93E-7	3.56E-8	2.72E-7	2.27E-9	-3.83E-7	9.20E-7
IR	kBq U-235 eq	1.61E+0	7.08E-2	5.62E-2	1.74E+0	2.65E-2	2.09E-1	1.51E-3	-7.25E-1	1.25E+0
ETP-fw	CTUe	8.00E+2	1.10E+1	3.07E+1	8.41E+2	4.91E+0	4.49E+2	4.95E+0	-2.22E+2	1.08E+3
HTP-c	CTUh	2.57E-8	6.87E-10	1.21E-9	2.76E-8	1.75E-10	6.80E-9	9.04E-12	-8.30E-9	2.62E-8
HTP-nc	CTUh	8.30E-7	9.69E-9	1.32E-7	9.72E-7	5.86E-9	1.59E-7	9.55E-10	-2.87E-7	8.50E-7
SQP	Pt	2.17E+2	4.18E+0	4.42E+0	2.26E+2	5.18E+0	3.73E+1	8.41E-1	-6.58E+1	2.03E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.43E+1	1.31E-1	4.60E+1	1.00E+2	8.68E-2	4.29E+0	1.19E-2	-2.15E+1	8.33E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.43E+1	1.31E-1	4.60E+1	1.00E+2	8.68E-2	4.29E+0	1.19E-2	-2.15E+1	8.33E+1
PENRE	MJ	7.45E+2	1.75E+1	1.80E+1	7.80E+2	6.43E+0	6.36E+1	3.51E-1	-4.04E+2	4.47E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.45E+2	1.75E+1	1.80E+1	7.80E+2	6.43E+0	6.36E+1	3.51E-1	-4.04E+2	4.47E+2
PET	MJ	7.99E+2	1.76E+1	6.40E+1	8.80E+2	6.51E+0	6.79E+1	3.63E-1	-4.25E+2	5.30E+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	5.25E-1	1.02E-3	1.64E-2	5.42E-1	6.85E-4	6.38E-2	4.04E-4	-2.34E-1	3.73E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.30E-3	1.95E-5	2.90E-4	5.61E-3	1.55E-5	9.65E-5	4.03E-7	-3.11E-4	5.41E-3
NHWD	kg	2.88E+0	2.00E-1	5.68E-2	3.14E+0	3.75E-1	2.21E+0	1.50E+0	-1.20E+0	6.02E+0
RWD	kg	1.39E-3	1.14E-4	7.69E-5	1.58E-3	4.12E-5	2.24E-4	2.16E-6	-6.39E-4	1.21E-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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