Environmental Profile

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

Ecochain v3.5.71

Product:	3039697 - Wavin UR UnJunc 45° BN 300x225x300 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	6.75E+1	3.57E-1	2.93E+0	7.08E+1	4.70E-1	1.38E+1	1.49E-1	-2.03E+1	6.50E+1
GWP-f	kg CO2 eq	6.85E+1	3.56E-1	2.84E+0	7.17E+1	4.70E-1	1.38E+1	1.49E-1	-2.01E+1	6.60E+1
GWP-b	kg CO2 eq	-1.02E+0	2.16E-4	9.17E-2	-9.27E-1	2.85E-4	-1.23E-2	1.93E-4	-1.38E-1	-1.08E+0
GWP-luluc	kg CO2 eq	6.73E-2	1.26E-4	2.11E-3	6.95E-2	1.66E-4	5.99E-3	3.74E-6	-1.29E-2	6.28E-2
ODP	kg CFC11 eq	2.28E-5	8.21E-8	2.85E-7	2.32E-5	1.08E-7	1.67E-6	5.61E-9	-1.00E-5	1.49E-5
AP	mol H+ eq	3.26E-1	2.03E-3	1.46E-2	3.43E-1	2.68E-3	2.75E-2	1.36E-4	-7.55E-2	2.97E-1
EP-fw	kg P eq	2.83E-3	2.93E-6	3.84E-5	2.87E-3	3.87E-6	2.01E-4	1.72E-7	-7.34E-4	2.34E-3
EP-m	kg N eq	5.76E-2	7.26E-4	3.13E-3	6.14E-2	9.58E-4	6.60E-3	9.02E-5	-1.31E-2	5.60E-2
EP-T	mol N eq	6.31E-1	8.00E-3	3.35E-2	6.72E-1	1.06E-2	7.28E-2	5.43E-4	-1.39E-1	6.17E-1
POCP	kg NMVOC eq	2.01E-1	2.29E-3	1.57E-2	2.19E-1	3.02E-3	2.17E-2	1.87E-4	-4.84E-2	1.96E-1
ADP-mm	kg Sb eq	1.69E-3	9.22E-6	6.06E-5	1.76E-3	1.22E-5	1.08E-4	1.34E-7	-4.20E-4	1.46E-3
ADP-f	MJ	1.34E+3	5.47E+0	3.13E+1	1.38E+3	7.21E+0	7.44E+1	4.09E-1	-4.88E+2	9.73E+2
WDP	m3 depriv.	3.82E+1	1.68E-2	1.01E+0	3.92E+1	2.21E-2	3.06E+0	1.87E-3	-2.87E+1	1.36E+1
PM	disease inc.	2.54E-6	3.22E-8	9.77E-8	2.67E-6	4.24E-8	3.34E-7	2.82E-9	-4.78E-7	2.57E-6
IR	kBq U-235 eq	2.86E+0	2.39E-2	8.48E-2	2.97E+0	3.15E-2	2.63E-1	1.90E-3	-9.29E-1	2.34E+0
ETP-fw	CTUe	1.32E+3	4.44E+0	7.48E+1	1.40E+3	5.86E+0	6.05E+2	6.72E+0	-2.76E+2	1.74E+3
HTP-c	CTUh	3.28E-8	1.58E-10	2.94E-9	3.59E-8	2.08E-10	7.68E-9	1.08E-11	-1.05E-8	3.32E-8
HTP-nc	CTUh	9.79E-7	5.29E-9	1.94E-7	1.18E-6	6.98E-9	2.03E-7	1.28E-9	-3.64E-7	1.03E-6
SQP	Pt	2.98E+2	4.68E+0	9.99E+0	3.13E+2	6.17E+0	4.50E+1	1.05E+0	-5.14E+1	3.14E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.28E+1	7.85E-2	1.47E+2	2.29E+2	1.03E-1	5.50E+0	1.58E-2	-2.08E+1	2.14E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.28E+1	7.85E-2	1.47E+2	2.29E+2	1.03E-1	5.50E+0	1.58E-2	-2.08E+1	2.14E+2
PENRE	MJ	1.44E+3	5.81E+0	3.32E+1	1.48E+3	7.66E+0	7.91E+1	4.34E-1	-5.26E+2	1.04E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.44E+3	5.81E+0	3.32E+1	1.48E+3	7.66E+0	7.91E+1	4.34E-1	-5.26E+2	1.04E+3
PET	MJ	1.52E+3	5.89E+0	1.80E+2	1.71E+3	7.76E+0	8.46E+1	4.50E-1	-5.47E+2	1.25E+3
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	8.63E-1	6.19E-4	2.84E-2	8.92E-1	8.16E-4	8.43E-2	5.05E-4	-3.00E-1	6.78E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.48E-3	1.40E-5	3.54E-4	1.84E-3	1.84E-5	1.20E-4	4.92E-7	-4.07E-4	1.57E-3
NHWD	kg	7.11E+0	3.39E-1	7.12E-2	7.52E+0	4.47E-1	2.66E+0	1.81E+0	-1.53E+0	1.09E+1
RWD	kg	2.54E-3	3.72E-5	9.38E-5	2.67E-3	4.91E-5	2.78E-4	2.67E-6	-8.21E-4	2.18E-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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