Environmental Profile

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

Ecochain v3.5.71

Product:	3039688 - Wavin UR Rock-Pipe BN 300 SN8 L=0.6 S/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	1.17E+1	5.18E-1	6.81E-1	1.29E+1	1.66E-1	4.33E+0	4.91E-2	-6.50E+0	1.09E+1
GWP-f	kg CO2 eq	1.16E+1	5.18E-1	6.48E-1	1.27E+1	1.66E-1	4.33E+0	4.90E-2	-6.45E+0	1.08E+1
GWP-b	kg CO2 eq	1.17E-1	-9.59E-5	3.25E-2	1.50E-1	1.01E-4	-4.50E-3	6.18E-5	-4.57E-2	9.97E-2
GWP-luluc	kg CO2 eq	1.08E-2	3.36E-4	3.07E-4	1.14E-2	5.86E-5	1.97E-3	1.34E-6	-4.23E-3	9.23E-3
ODP	kg CFC11 eq	6.41E-6	1.06E-7	8.32E-8	6.60E-6	3.82E-8	5.30E-7	1.91E-9	-3.28E-6	3.89E-6
AP	mol H+ eq	5.60E-2	1.51E-2	2.93E-3	7.40E-2	9.44E-4	9.09E-3	4.62E-5	-2.47E-2	5.94E-2
EP-fw	kg P eq	5.61E-4	2.40E-6	8.18E-6	5.72E-4	1.36E-6	6.55E-5	6.00E-8	-2.41E-4	3.98E-4
EP-m	kg N eq	9.60E-3	3.74E-3	7.75E-4	1.41E-2	3.38E-4	2.20E-3	2.79E-5	-4.26E-3	1.24E-2
EP-T	mol N eq	1.06E-1	4.16E-2	7.98E-3	1.55E-1	3.72E-3	2.42E-2	1.84E-4	-4.53E-2	1.38E-1
POCP	kg NMVOC eq	3.42E-2	1.08E-2	4.33E-3	4.93E-2	1.06E-3	7.28E-3	6.30E-5	-1.57E-2	4.20E-2
ADP-mm	kg Sb eq	1.60E-2	5.09E-6	8.60E-6	1.60E-2	4.29E-6	3.60E-5	4.63E-8	-1.34E-4	1.59E-2
ADP-f	MJ	2.90E+2	6.80E+0	7.12E+0	3.04E+2	2.54E+0	2.51E+1	1.39E-1	-1.57E+2	1.75E+2
WDP	m3 depriv.	1.96E+1	1.16E-2	2.65E-1	1.99E+1	7.80E-3	9.80E-1	9.68E-4	-9.43E+0	1.15E+1
PM	disease inc.	3.49E-7	1.99E-8	1.82E-8	3.87E-7	1.50E-8	1.14E-7	9.55E-10	-1.56E-7	3.61E-7
IR	kBq U-235 eq	6.71E-1	2.92E-2	2.36E-2	7.24E-1	1.11E-2	8.76E-2	6.36E-4	-3.04E-1	5.20E-1
ETP-fw	CTUe	3.33E+2	4.55E+0	1.29E+1	3.51E+2	2.07E+0	1.88E+2	2.08E+0	-9.11E+1	4.52E+2
HTP-c	CTUh	1.06E-8	2.85E-10	5.08E-10	1.14E-8	7.35E-11	2.82E-9	3.80E-12	-3.45E-9	1.08E-8
HTP-nc	CTUh	3.47E-7	3.96E-9	5.54E-8	4.06E-7	2.46E-9	6.65E-8	4.01E-10	-1.20E-7	3.56E-7
SQP	Pt	4.04E+1	1.66E+0	1.85E+0	4.39E+1	2.18E+0	1.56E+1	3.54E-1	-1.68E+1	4.53E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.52E+1	5.36E-2	1.93E+1	3.46E+1	3.65E-2	1.80E+0	5.00E-3	-6.85E+0	2.95E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.52E+1	5.36E-2	1.93E+1	3.46E+1	3.65E-2	1.80E+0	5.00E-3	-6.85E+0	2.95E+1
PENRE	MJ	3.11E+2	7.22E+0	7.56E+0	3.26E+2	2.70E+0	2.67E+1	1.48E-1	-1.69E+2	1.86E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.11E+2	7.22E+0	7.56E+0	3.26E+2	2.70E+0	2.67E+1	1.48E-1	-1.69E+2	1.86E+2
PET	MJ	3.27E+2	7.27E+0	2.69E+1	3.61E+2	2.74E+0	2.85E+1	1.53E-1	-1.76E+2	2.16E+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	2.19E-1	4.17E-4	6.89E-3	2.26E-1	2.88E-4	2.68E-2	1.70E-4	-9.84E-2	1.55E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.22E-3	7.90E-6	1.22E-4	2.35E-3	6.50E-6	4.04E-5	1.70E-7	-1.30E-4	2.27E-3
NHWD	kg	1.18E+0	7.72E-2	2.39E-2	1.28E+0	1.58E-1	9.19E-1	6.30E-1	-5.01E-1	2.49E+0
RWD	kg	5.76E-4	4.71E-5	3.23E-5	6.56E-4	1.73E-5	9.39E-5	9.06E-7	-2.68E-4	5.00E-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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