Environmental Profile

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

Ecochain v3.5.71

Product:	3039650 - Wavin UR Repair Coupler BN 150 SN8 D/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	1.00E+0	4.34E-2	8.22E-2	1.13E+0	1.34E-2	3.64E-1	4.20E-3	-5.60E-1	9.52E-1
GWP-f	kg CO2 eq	9.94E-1	4.34E-2	7.96E-2	1.12E+0	1.34E-2	3.65E-1	4.20E-3	-5.56E-1	9.44E-1
GWP-b	kg CO2 eq	8.86E-3	-9.32E-6	2.57E-3	1.14E-2	8.15E-6	-3.67E-4	5.29E-6	-3.93E-3	7.14E-3
GWP-luluc	kg CO2 eq	8.30E-4	2.86E-5	5.93E-5	9.18E-4	4.75E-6	1.66E-4	1.12E-7	-3.64E-4	7.24E-4
ODP	kg CFC11 eq	5.56E-7	8.83E-9	8.01E-9	5.73E-7	3.09E-9	4.53E-8	1.58E-10	-2.83E-7	3.39E-7
AP	mol H+ eq	4.62E-3	1.30E-3	4.10E-4	6.33E-3	7.65E-5	7.61E-4	3.84E-6	-2.13E-3	5.04E-3
EP-fw	kg P eq	4.55E-5	1.95E-7	1.08E-6	4.68E-5	1.10E-7	5.53E-6	5.03E-9	-2.08E-5	3.17E-5
EP-m	kg N eq	7.78E-4	3.22E-4	8.77E-5	1.19E-3	2.74E-5	1.83E-4	2.36E-6	-3.67E-4	1.03E-3
EP-T	mol N eq	8.47E-3	3.58E-3	9.39E-4	1.30E-2	3.02E-4	2.02E-3	1.53E-5	-3.90E-3	1.14E-2
POCP	kg NMVOC eq	2.87E-3	9.29E-4	4.41E-4	4.24E-3	8.62E-5	6.05E-4	5.26E-6	-1.35E-3	3.58E-3
ADP-mm	kg Sb eq	5.80E-4	4.00E-7	1.70E-6	5.82E-4	3.47E-7	3.01E-6	3.86E-9	-1.15E-5	5.74E-4
ADP-f	MJ	2.54E+1	5.65E-1	8.78E-1	2.68E+1	2.06E-1	2.08E+0	1.15E-2	-1.36E+1	1.56E+1
WDP	m3 depriv.	1.68E+0	9.29E-4	2.83E-2	1.71E+0	6.32E-4	8.33E-2	7.84E-5	-8.12E-1	9.83E-1
PM	disease inc.	2.99E-8	1.58E-9	2.74E-9	3.42E-8	1.21E-9	9.40E-9	7.93E-11	-1.35E-8	3.14E-8
IR	kBq U-235 eq	5.52E-2	2.43E-3	2.38E-3	6.00E-2	9.01E-4	7.32E-3	5.29E-5	-2.62E-2	4.21E-2
ETP-fw	CTUe	2.15E+1	3.75E-1	2.10E+0	2.40E+1	1.67E-1	1.63E+1	1.80E-1	-7.81E+0	3.28E+1
HTP-c	CTUh	7.74E-10	2.41E-11	8.25E-11	8.81E-10	5.95E-12	2.32E-10	3.19E-13	-2.97E-10	8.22E-10
HTP-nc	CTUh	2.49E-8	3.20E-10	5.45E-9	3.07E-8	1.99E-10	5.62E-9	3.46E-11	-1.03E-8	2.62E-8
SQP	Pt	3.26E+0	1.23E-1	2.80E-1	3.66E+0	1.76E-1	1.28E+0	2.95E-2	-1.44E+0	3.70E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.25E+0	4.30E-3	4.11E+0	5.37E+0	2.96E-3	1.52E-1	4.25E-4	-5.89E-1	4.94E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.25E+0	4.30E-3	4.11E+0	5.37E+0	2.96E-3	1.52E-1	4.25E-4	-5.89E-1	4.94E+0
PENRE	MJ	2.72E+1	6.00E-1	9.33E-1	2.88E+1	2.19E-1	2.22E+0	1.22E-2	-1.46E+1	1.66E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.72E+1	6.00E-1	9.33E-1	2.88E+1	2.19E-1	2.22E+0	1.22E-2	-1.46E+1	1.66E+1
PET	MJ	2.85E+1	6.05E-1	5.05E+0	3.41E+1	2.22E-1	2.37E+0	1.27E-2	-1.52E+1	2.15E+1
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	1.83E-2	3.34E-5	7.96E-4	1.91E-2	2.33E-5	2.27E-3	1.41E-5	-8.46E-3	1.30E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.01E-5	6.22E-7	9.93E-6	1.01E-4	5.27E-7	3.36E-6	1.41E-8	-1.12E-5	9.33E-5
NHWD	kg	9.78E-2	5.16E-3	2.00E-3	1.05E-1	1.28E-2	7.52E-2	5.11E-2	-4.32E-2	2.01E-1
RWD	kg	4.80E-5	3.92E-6	2.63E-6	5.45E-5	1.40E-6	7.78E-6	7.50E-8	-2.30E-5	4.07E-5
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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